

DESIGN REPORT: PUBLIC INTEREST DESIGN.

The Culinary Rhizome: Fostering Community Growth, Economic Growth, Community Inclusion and Skills Development within Melusi Informal Settlement.

BY

Louné Basson

SUPERVISOR

Prof. Carin Combrinck

CO-SUPERVISOR

Janri Barker

Department of Architecture
Faculty of Engineering, the Built Environment and Information Technology
University of Pretoria
South Africa

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Abstract

The project The Culinary Rhizome is planted within Melusi informal settlement. The Rhizome is a culinary school fostering community growth, celebrating cooking as a participatory practice and aspires to allow for economic growth within Melusi. Its programs offer innovative cooking and recycling methods, inviting the Melusi community to participate in skills and knowledge exchange as well as business creation. The school also welcomes the general public join in on the experience. The Rhizome is a culinary school that facilitates a seminar kitchen, rentable kitchen for the community, restaurant for weekend visitors and market stalls. The Rhizome culinary ethos is based on food sovereignty, health and farm-to-fork cooking. The program aims to teach participants about farm-to-fork cooking, food preservation, recycling and running a business through a restaurant and markets.

Melusi informal settlement is located on the outskirts of Tshwane, in the industrial side of western Tshwane. The Rhizome is not a stand-alone facility but plants itself within an educational hub in Melusi. This node includes Melusi Youth Development Organization (MYDO), a skills and knowledge exchange facility, which the community takes great pride in, a children's Creche and a clinic. The users include chefs from the community that will lead the culinary school, community members who wish to take part in the culinary school program or rent market stalls to sell produce. Other users include the public who would like to partake in the culinary school programme or who act as daily visitors to the hub.

Through utilizing the Max-Neef Human Scale Development Framework, the first (tangible) and Second (intangible) order meaning was identified within the community. For meaning to be made within a place, the tangible and intangible must be in harmony. Through fieldwork it was found that the intangible programs allow for synergistic need satisfaction. However, the tangible was not able to support that. The project follows the concept of a Rhizome. Not only do rhizomes come forth within plants but also in the human body and city growth. The project aims to bridge the gap between the functional second order meaning and the shortcoming of first order meaning. This will be enabled by the design approach. The design approach is inspired by the innovative usage of reclaimed materials within Melusi and should make use of innovative ways to make small spaces functional through modularity, adaptability and low-tech high-design tangible implementation.



Site & Context

Macro Context

The research study that supports the design took place within Melusi informal settlement, located on the western side of the City of Tshwane. The research study is an ongoing study within the University of Pretoria, led by the National Research Foundation (NRF), Public Interest Design (PID) studio as well as the Unit for Urban Citizenship Studio. The project aims to partake in a collaborative effort and establish relationships between various stakeholders such as the Melusi Youth Development Organisation (MYDO) as well as the Community Oriented Primary Care (COPC) research unit at the University of Pretoria. The end goal of the 3-year study is to put together a Community Action Plan (CAP) that would contribute to the City of Tshwane (CoT). The CAP also considers the Upgrade for Informal Settlements Programme (UISP).



Figure 1: Macro Context of Melusi (Basson 2024 Adapted from UUC 2023)

Meso Context

According to the Unit for Urban Citizenship (2023) before the emergence of Melusi, the site was used as a sand quarry mine that was shut down. The layout of the quarry allowed for the formation of Melusi Informal settlement since the layout of the quarry allowed for access from Theo Slabbert Road to one of the region's main roads, Van der Hoff Road (Malatji 2024).

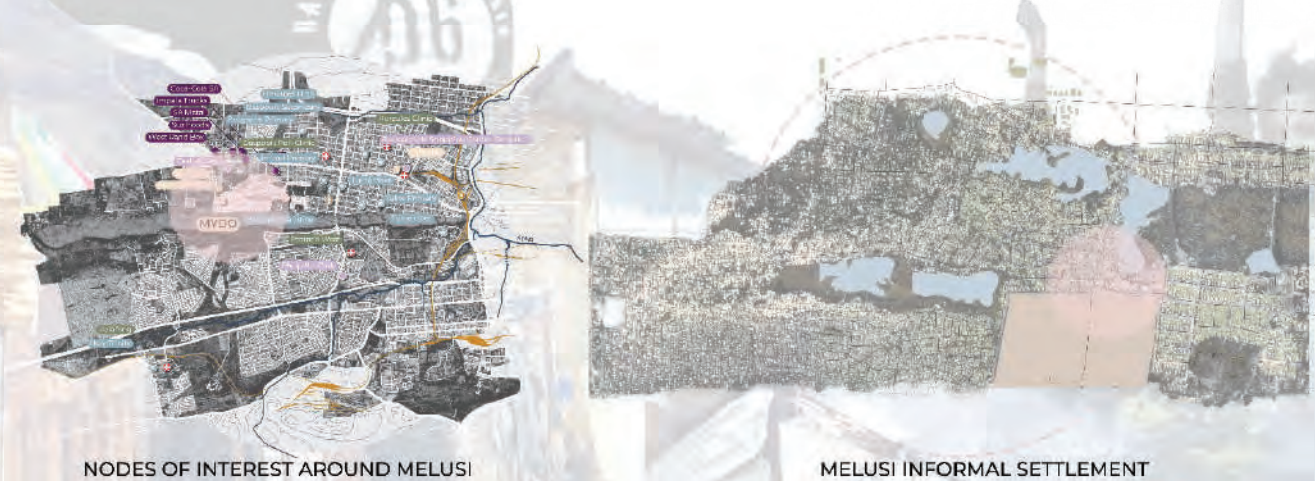


Figure 2: Meso Context of Melusi (Basson 2024 Adapted from UUC 2023)

The growth of Melusi commenced in 2008 around the industrial region of the CoT. Melusi is an example of rapid urbanisation where the first node is called Melusi 1, the second node is Melusi 2 and the third node, Melusi 3. As time went on, all three nodes connected around the quarry and were framed by the adjacent mountainside (Malatji 2024). Melusi informal settlement is an example of the social injustices experienced within the marginalised communities within South Africa.

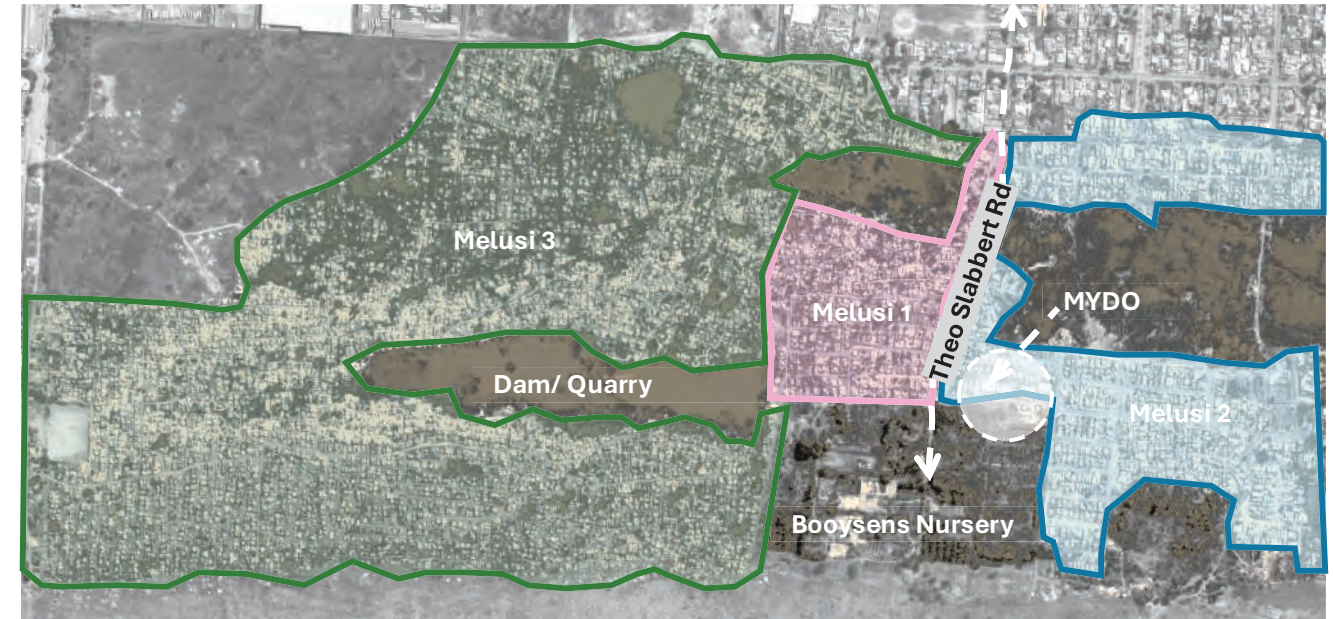


Figure 4: Map of Melusi (Basson 2024)

Micro Context

The chosen site sits upon the fastest-growing node of Melusi that houses MYDO, the community hub and a creche.

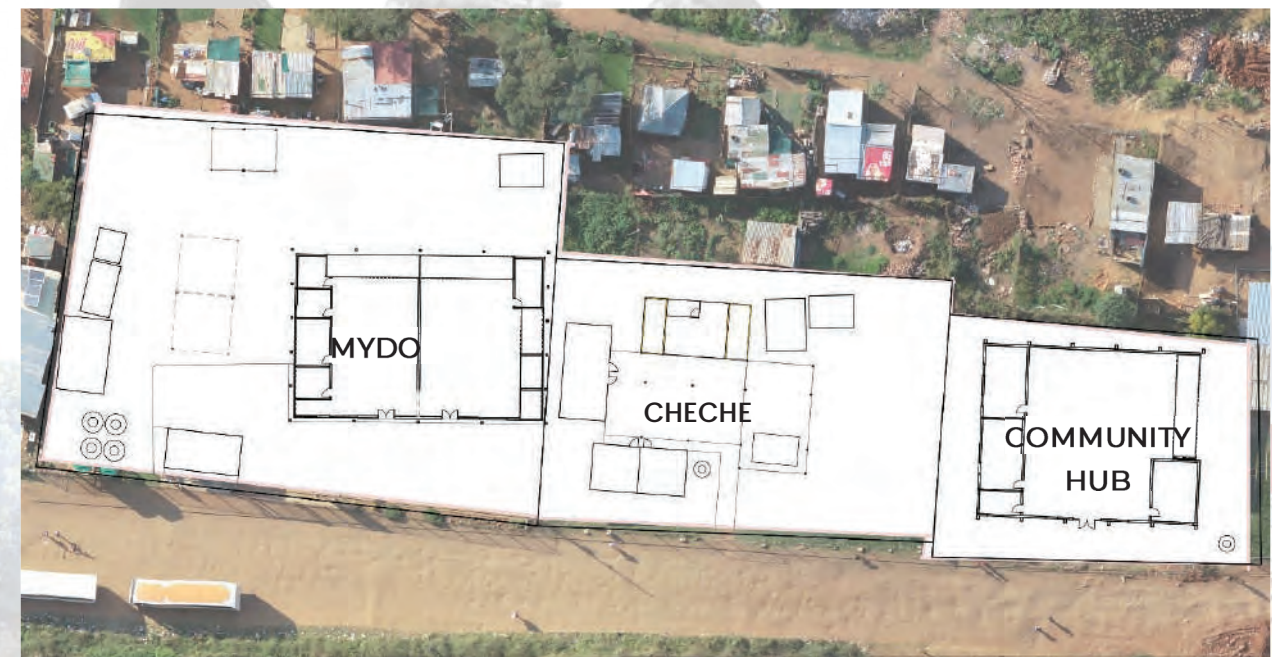


Figure 5: The Educational Hub (Basson 2024)

Since this overall study of the NRF has taken place over 3 years, the data that was collected in 2023, showed that Melusi has great resilience and potential to grow. One symbol of the growth in Melusi is the Melusi Youth Development Organisation (MYDO) (Unit for Urban Citizenship 2023). MYDO was built in 2015 through New Schools of H.O.P.E, non-profit early childhood development (ECD), Coca-Cola Beverages South Africa, SABRIX, HI Steel and PPC. MYDO houses programmes such as feeding schemes, training classes as well as aftercare school programmes (Mamatshela 2021). The organisation's mission relates to the support of underprivileged children who might not have access to education.

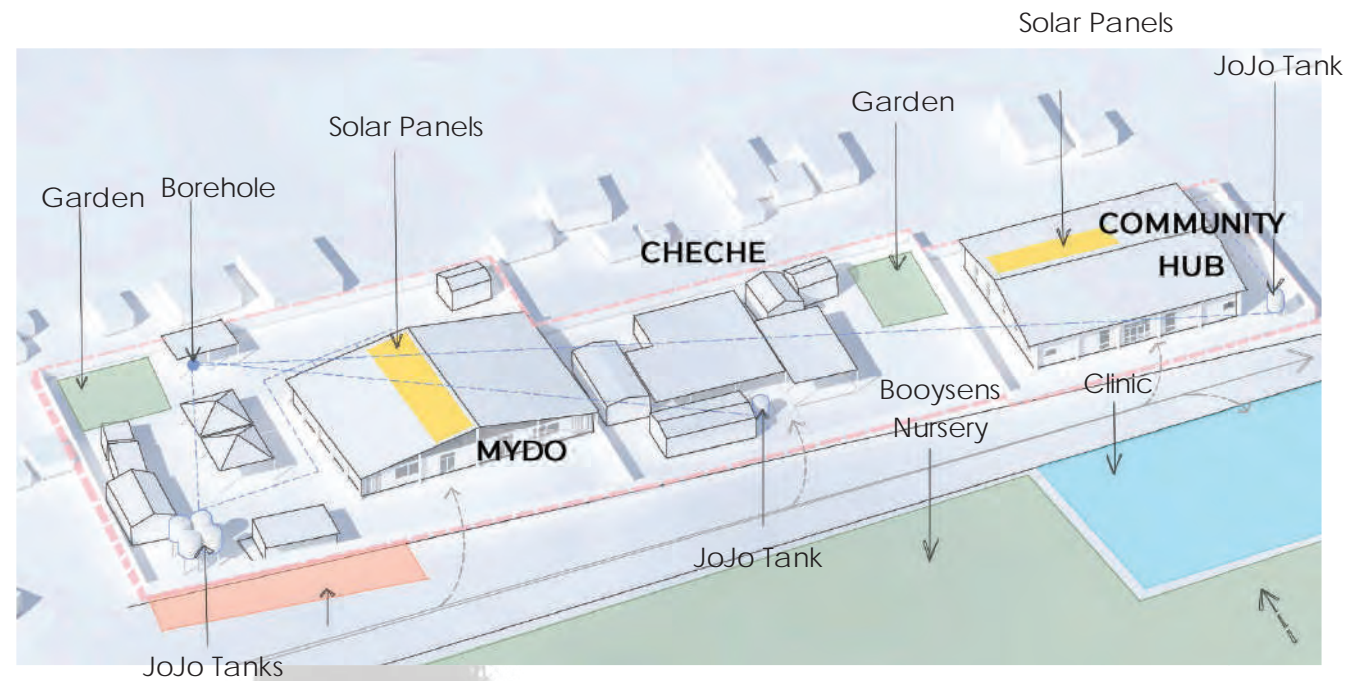
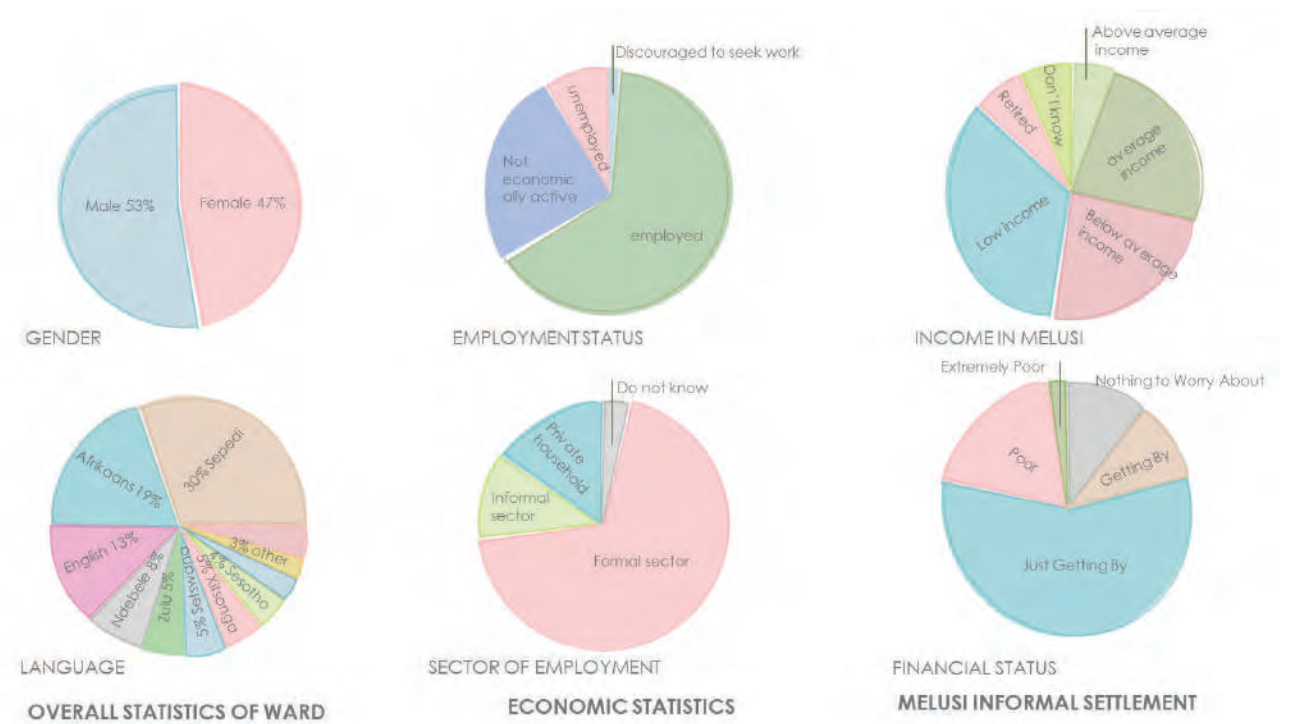


Figure 3: The Educational Node (Basson 2024)



It is very clear that there is a gap in terms of the financial status of the Ward compared to data collected in the Unit for Urban Citizenship fieldwork Study (2023). Melusi faces a large economic divide compared with the rest of the ward. There is thus great potential for growth in Melusi in terms of investment and economic growth.

Human Typology

Melusi Informal settlement is situated within Ward 55 in Region 3. The overall financial demographic of the ward performs well. The stats I would like to highlight is the language showcasing that the ward is multi-cultural. The employment status of the ward compared to melusi is very different.

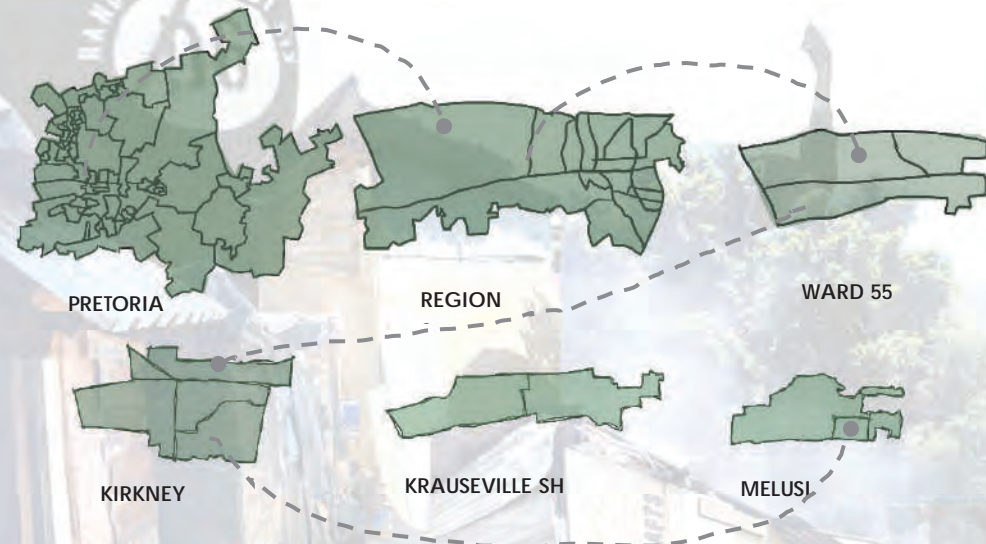


Figure 6: Melusi Ward (Basson 2024)

Theoretical Framework

Public Interest Design & Design for Social Innovation.

The project is based on 3 theoretical pillars namely Public Interest Design (PID), Design for Social Innovation (SI) and the Interior architectural Social Compact (IASC).

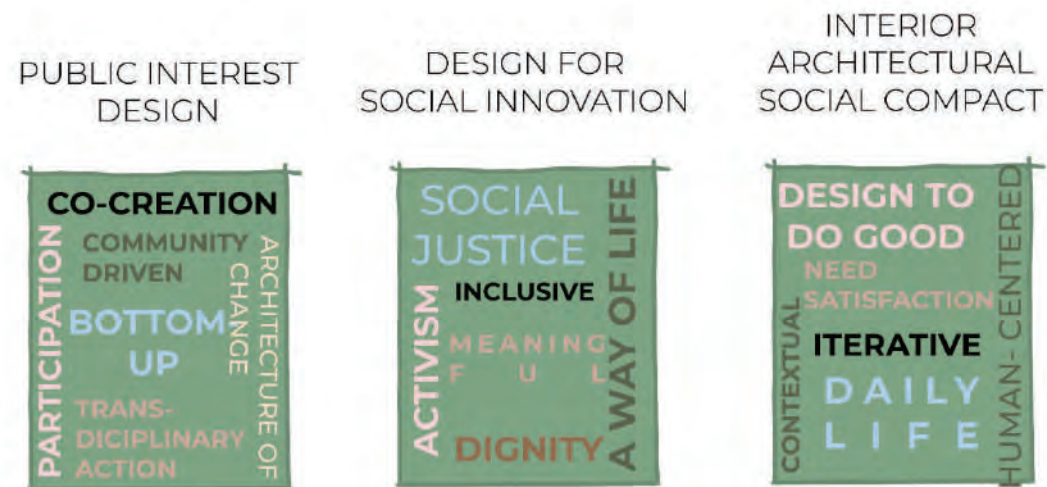


Figure 7: PID, Design for Social Innovation and the Interior Architectural social compact (Basson 2024)

PID, as well as SI, are processes that require trans-disciplinary knowledge and action to make informed decisions that can facilitate informed changes based on action (Anderson 2014). Ndovela, et al. (2022) make mention of Smith (2014), who states that social justice should not just be seen as an act of charity, but should be seen as a way of life, that is part of every individual's fundamental core. It is a belief based on the foundation that every person deserves satisfaction and must be treated with dignity within their day-to-day life (Ndovela, Olalere & Reynolds 2022).

Interior Architectural Social Compact.

Within the interior design profession, there is one aspect of professionalism unaddressed by designers namely the social compact to do good (Anderson, Honey & Dudek 2007: 1). The interior architectural design profession was more focused on the expertise provided rather than the social compact (Anderson, Arch, Honey, & Dudek, 2007). Socially responsible design within interior design captures the human perspective of sustainability and creates value in terms of social and cultural populations (Ndovela, Olalere & Reynolds 2022). It is only fitting that interior architecture/ design broadens its horizons and ventures into the realm of PID as well as design for SI. Papanek (1984) emphasises a remarkable aspect of design is that it relates solely to people. Similarly, König (2015b: 185) mentions that interior designers should move towards a design philosophy of *what ought to be*.

Interior designers impact the human body, thoughts of the inhabitant, emotions and beliefs, behaviours and the existence of the inhabitants
(Ndovela, Olalere & Reynolds 2022: 66).

Interior Architectural Social Compact Conceptual Framework.

The essence of interior design/ architecture lies within its design process, which consists of an iterative multi-stage programme (Ndovela & Olalere 2023). Lucas (2015) states that the interior design process is a process that is mainly focused on human-centred design as well as human experience. To ensure that there is a relationship between interior architecture, PID and design for SI, the IASC Conceptual Framework has been created

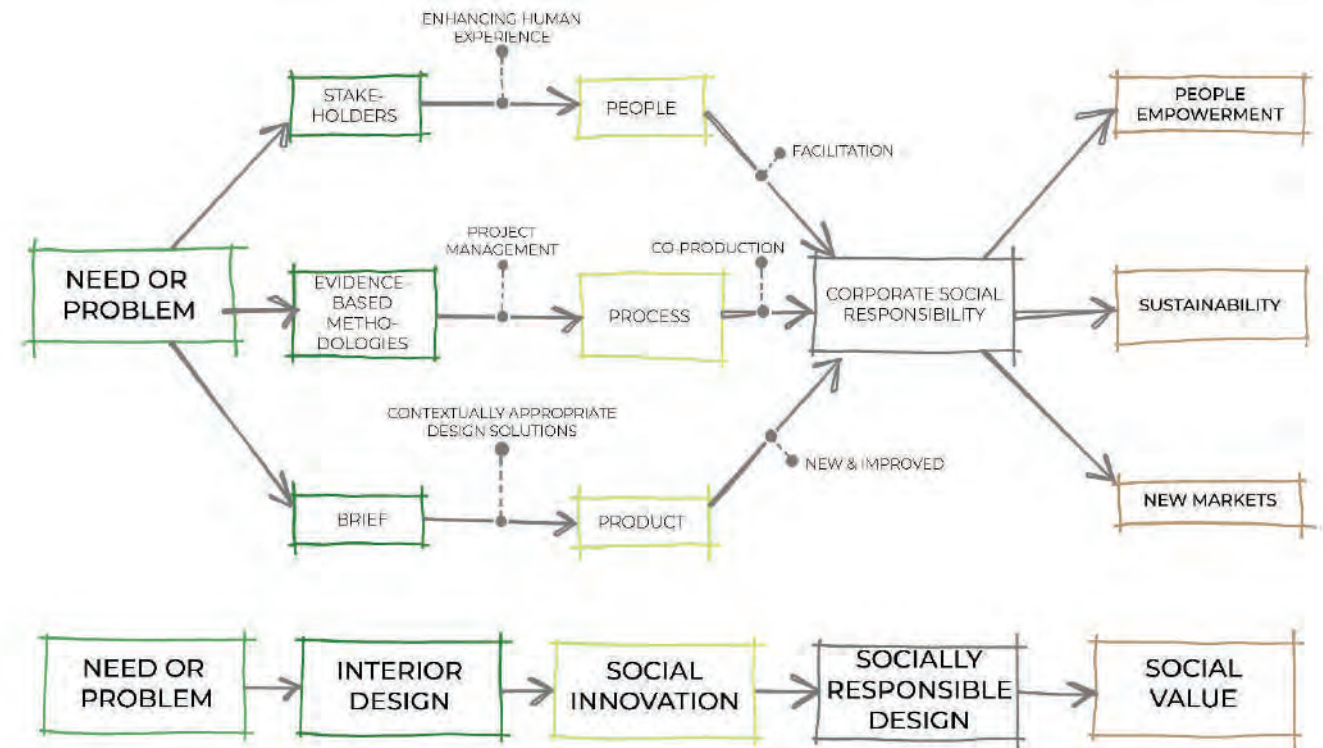


Figure 8: The Interior Architectural Social Compact Conceptual Framework (Basson 2024)

Social needs are addressed within the interior architectural/ design social compact (Ndovela, Olalere & Reynolds 2022). Ndovela et al. (2022) state that the framework starts with identified social problems. The interior architects engage with specific stakeholders through evidence-based research centred around a given or created brief. Through the relationship of the concepts that fall under the conceptual framework of the interior designs social compact, the designer enhances the human experience and fosters deeper connections with affected communities. With this, the designers discern the drivers of the community, what propels them and how they are related which leads to uncovering potential solutions to challenges identified (Ndovela, Olalere & Reynolds 2022).

Meaning Making in the First and Second Order.

When designing interior spaces, the designers must consider meaning-making within a space (Poldma 2010). Similarly, Königk (2015a) speaks about the creative ability that interior designers possess to unlock deeper cultural meaning within interior spaces and the built environment. Poldma (2010) states that when it comes to designing interior spaces, the tangible as well as the intangible are aspects that come into play. This includes the physical volume and characteristics of a space and how the space becomes a stage for complex meanings that create interrelations between people, objects, contexts as well as live experiences (Poldma 2010).

Interior design offers the tangible cultural spaces that serve as vehicles for intangible cultural practices (Königk 2015a: 50).

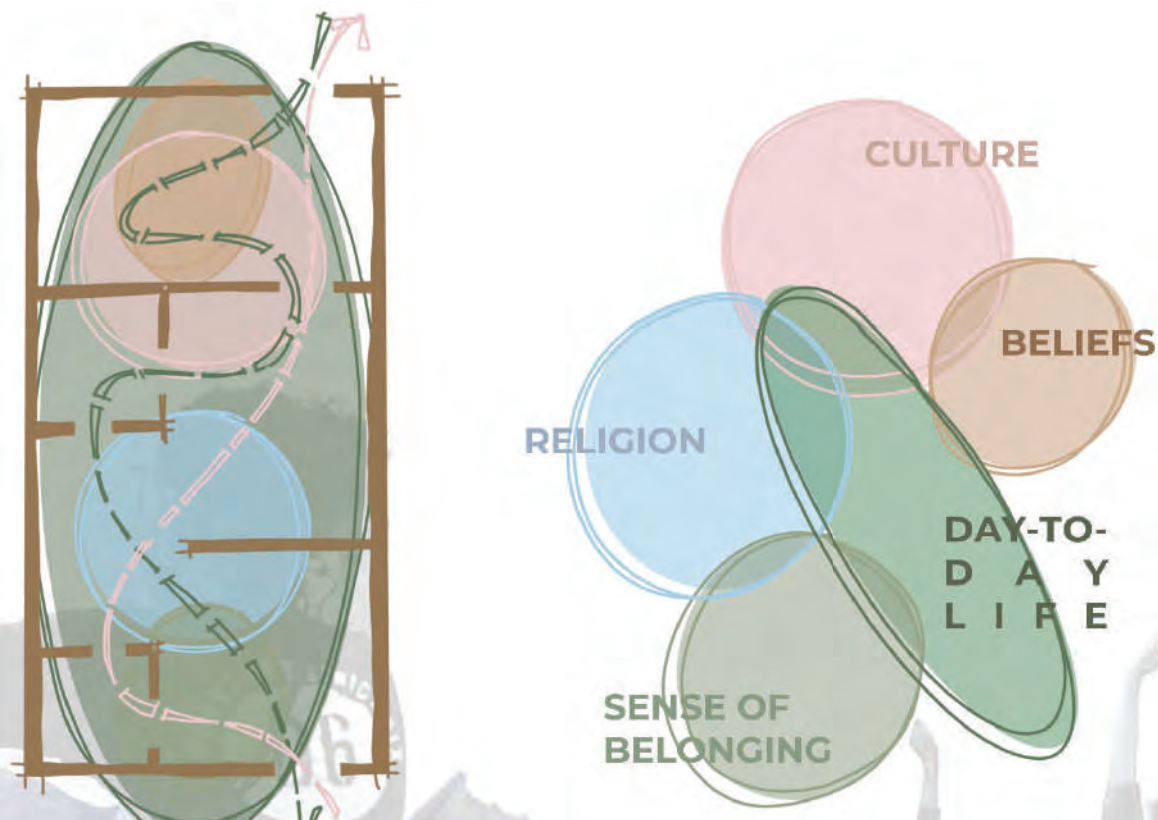


Figure 9: First order Meaning and second Order Meaning (Basson 2024)

Second Order Meaning (Intangible Programmes)

This notion essentially revolves around what the end user believes, thinks and how the end user goes about their daily life rather than thinking what the end user ought to be or can be (Ndovela, Olalere & Reynolds 2022). As mentioned, when designing meaningful spaces, the second order meaning must be generated first. For second order meaning to be made within a specific context, one must first understand the relational complexity of that specific context. Individuals, along with interiors, contribute to a larger cultural context.

First Order Meaning (Tangible Architecture)

Once the second order meaning is identified, the designer then moves forward to the spatial creation where intangibles are portrayed as meaningful objects (Königk 2015a). When translating text into spatial practice, although meaning is created through uncertainties and trust within the space, there should still be aspects of *familiarity* incorporated within the spatial product (Kasule 2016: 29)

Max-Neef Human Scale Development Framework.

The HSD Framework does not only speak to *living*, but rather, it addresses the *art of living well* (Cruz, Stahel & Max-Neef 2009: 2021). The framework was developed to act as a vehicle to improve the *quality of life of people* and communities; not only to uplift themselves but also to be sustainable within themselves (Cruz, Stahel & Max-Neef 2009: 2021). The basis of HSD focuses on the satisfaction of fundamental human needs along with the growth of self-reliance within a community (Max-Neef 1991). Max-Neef's (1991) HSD Framework notes a few human needs and can be classified. HSD needs are similar if not the same in all cultures as well as historical paradigms. Yet it does change and evolve along with the development of humanity itself and does so very timely (Max-Neef 1991).

Need	Being	Having	Doing	Interacting
Subsistence	Physical and mental health	Food, shelter, work	Feed clothes rest	Living environment/ social setting
Protection	Care/ adaptability/ autonomy	Health systems, social security	Take care of, help, plan	Social environment, dwelling
Affection	Respect, sensually, generosity	Friendships, family	Share, take care of, express emotions	Privacy, togetherness
Understanding	Critical capacity, curiosity, intuition	Literature, teachers, educational	Analyse, study, mediate, investigate	Schools, families, university, community
Participation	Receptiveness, dedication	Responsibilities, work, rights	Cooperate, dissent, express, opinion	Associations, neighbourhoods
leisure	Imagination, tranquillity, spontaneity	Parties, games, piece of mind	Daydream, remember, relax	Landscapes, places to be alone
creation	Imagination, boldness, curiosity	Abilities, skills, techniques	Invent, build, design, compose	Spaces for expression, workshops
Identity	Sense of belonging, self-esteem	Language, religion, work, self-esteem	Grow, commit oneself	Everyday settings, places where you belong
Freedom	Autonomy, passion, Self-esteem	Equal rights	Dissent, choose, develop awareness	anywhere

Figure 11: Max-Neef HSD Framework (Max-Neef 1991)

Max-Neef Human Scale Development Framework & Meaning Making.

To discern the needs and the meaning within Melusi informal settlement, Max-Neef's Human Scale Development (HSD) Framework is utilised. According to Max Neef (1991: 27), the framework includes nine axiological needs namely *subsistence, protection, affection, understanding, participation, idleness, creation, identity and freedom*. The framework is very effective within this context because it allows the designer to understand what needs the community has and how they manifest in terms of *Satisfiers, Impediments* as well as *Utopia*. The HSD framework is also particular to a specific context because not only does it include nine axiological needs but also considers the needs on an existential level of *doing, having, being and interacting* (Max-Neef 1991: 27).

Need	Being	Having	Doing	Interacting
Subsistence	Physical and mental health	Food, shelter, work	Feed clothes rest	Living environment/ social setting
Protection	Care/ adaptability/ autonomy	Health systems, social security	Take care of, help, plan	Social environment, dwelling
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Figure 10: Max-Neef HSD framework Tangible and Intangible (Max-Neef 1991)

The Matrix can be populated according to *impediments* that prevent needs from being satisfied. *Satisfiers* allow needs to be satisfied and *utopia* relates to what the individual desires for that need to be satisfied. Within the matrix, the existential level of needs of being, having and doing can be categorised as the second order meaning (intangible) that is connected to a specific axiological need. The Interacting columns can be categorised as the first order meaning (tangible) that influences a specific axiological need. In the case that the *Satisfiers* are closely linked to the *Utopia*, one can conclude that the axiological need is satisfied within Melusi.

Fieldwork



Figure 12: Fieldwork Data Collection (Basson 2024)

DATA COLLECTION TIMELINE

The fieldwork commenced with each group facilitating a different game, a set of consent forms that state the reasoning for the participatory research, an area for a signature of the participant, a date and the signature of the facilitator. The first day, the groups were tasked with asking the curated prompt questions according to what needs are satisfied within Melusi. On the second day, my group was assigned to set up in front of the church on the main entrance road where we were tasked with asking the curated prompt questions that relate to impediments. On the third and final day, my group was assigned to set up in front of MYDO. The data was collected with a series of games. I facilitated the Matrix game which was an interactive board game that used icons representing the nine axiological needs with draw cards that prompted questions in terms of *doing, having, being and interacting*. The data cumulated over a 3-day period was utilised to inform the project

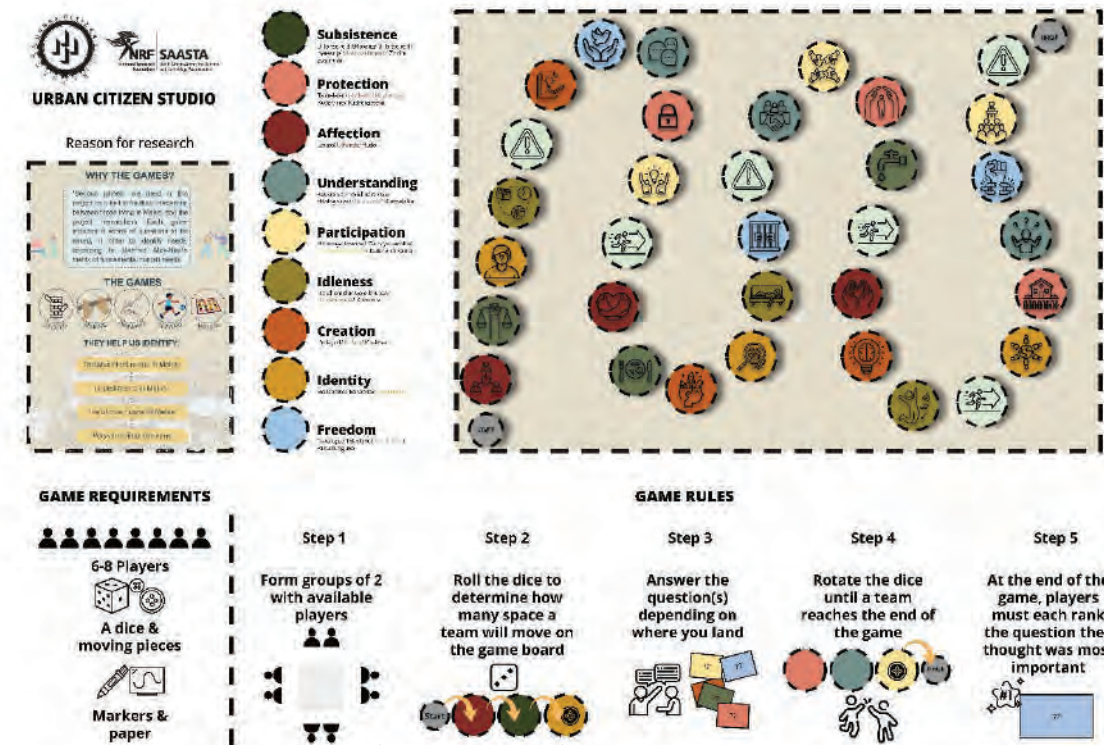


Figure 13: The Matrix Game (Basson 2024)

First Order Meaning in Melusi

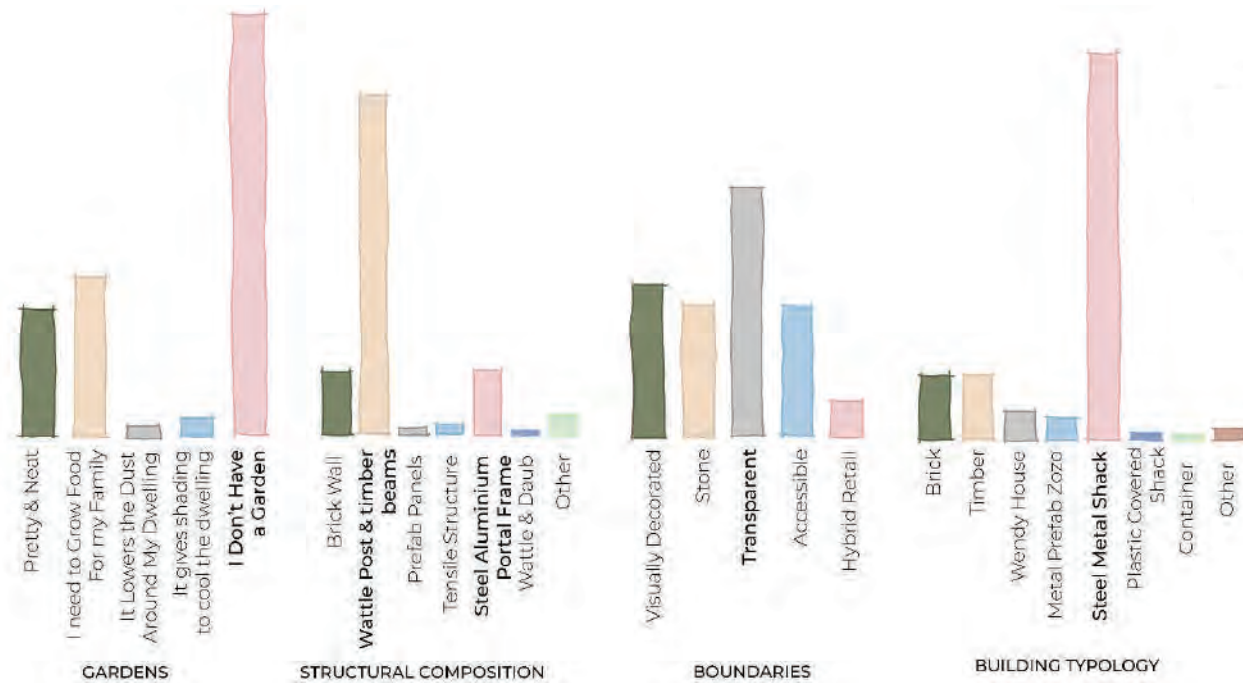


Figure 16: Building Typologies in Melusi (Basson 2024 Adapted From UUC 2023)

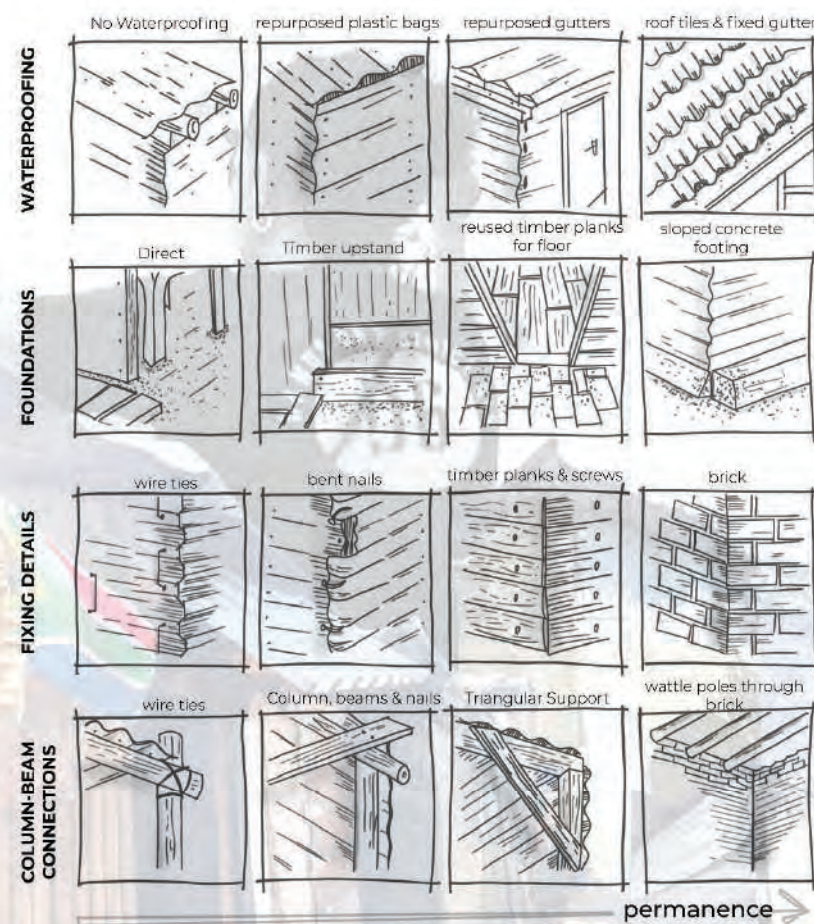


Figure 17: Connection details in Melusi (Basson 2024 adapted From UUC 2023)

The community makes use of innovative ways to repurpose recycled materials. The building typology within Melusi can be put on a scale ranging from more permanent structural buildings like brick-and-mortar erected buildings. The less permanent includes making use of wattle and post timber structures and corrugated steel. Wattle and Post timber structures with corrugated metal are more common within Melusi than brick buildings. The boundary walls around structures are of a transparent nature and many people within Melusi do not possess a garden.

This permanent to semi-permanent building typology, the transparency of the boundaries and the usage of repurposed materials is what contributes to the genius loci of Melusi.

Satisfiers & Utopian Requests

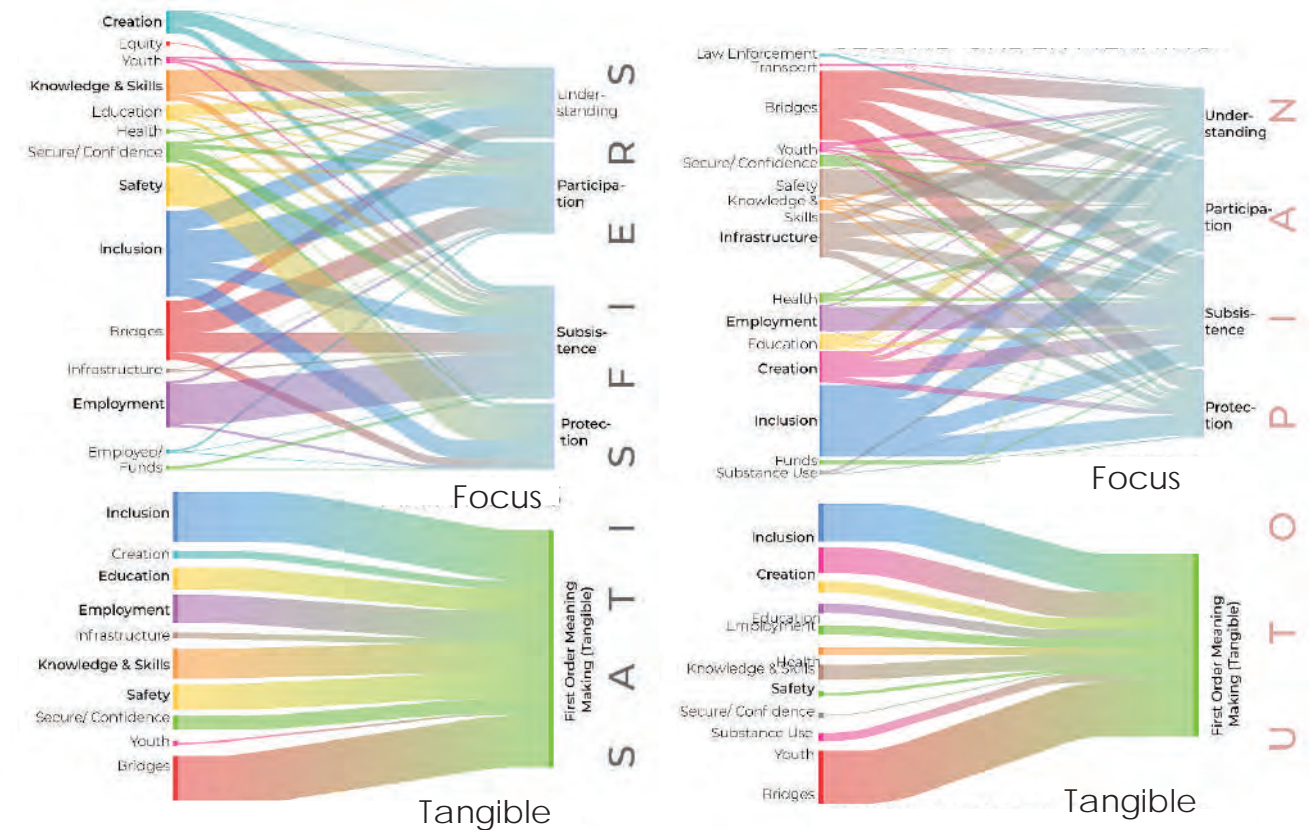


Figure 24: Satisfiers & Utopian Requests (Tangible) (Basson 2024)

The tangible in Melusi manifests as facilities that support the intangible programmes. As mentioned, the intangible meaning manifests through community inclusion. Within the tangible, this is affected by skills and knowledge exchange, employment and safety. Only some tangible facilities that house the intangible programmes, satisfy the axiological needs of participation, subsistence, protection and understanding. When looking at the most highlighted facility, that is MYDO, it includes programmes of skills and knowledge exchange through computer training, education through after-school care programmes, job creation through tutoring and cooking and safety because it acts as a safe space for children.

Unlike the close relationship between the intangible programmes of the *satisfiers* and the *utopian* requests, the tangible within the *satisfiers* and the *utopian* requests are very differentiated. Therefore, the tangible already present within Melusi is not adequate to facilitate the *satisfied* intangible programmes. By comparing the tangible in terms of the *satisfiers* to that of the *utopian* requests the facilities are very different. König (2015a) states that the second order meaning (intangible) is represented through meaningful objects. Although this is somewhat present within Melusi as presented through MYDO, it does not necessarily manifest when considering education, safety and employment

First Order Meaning in Node

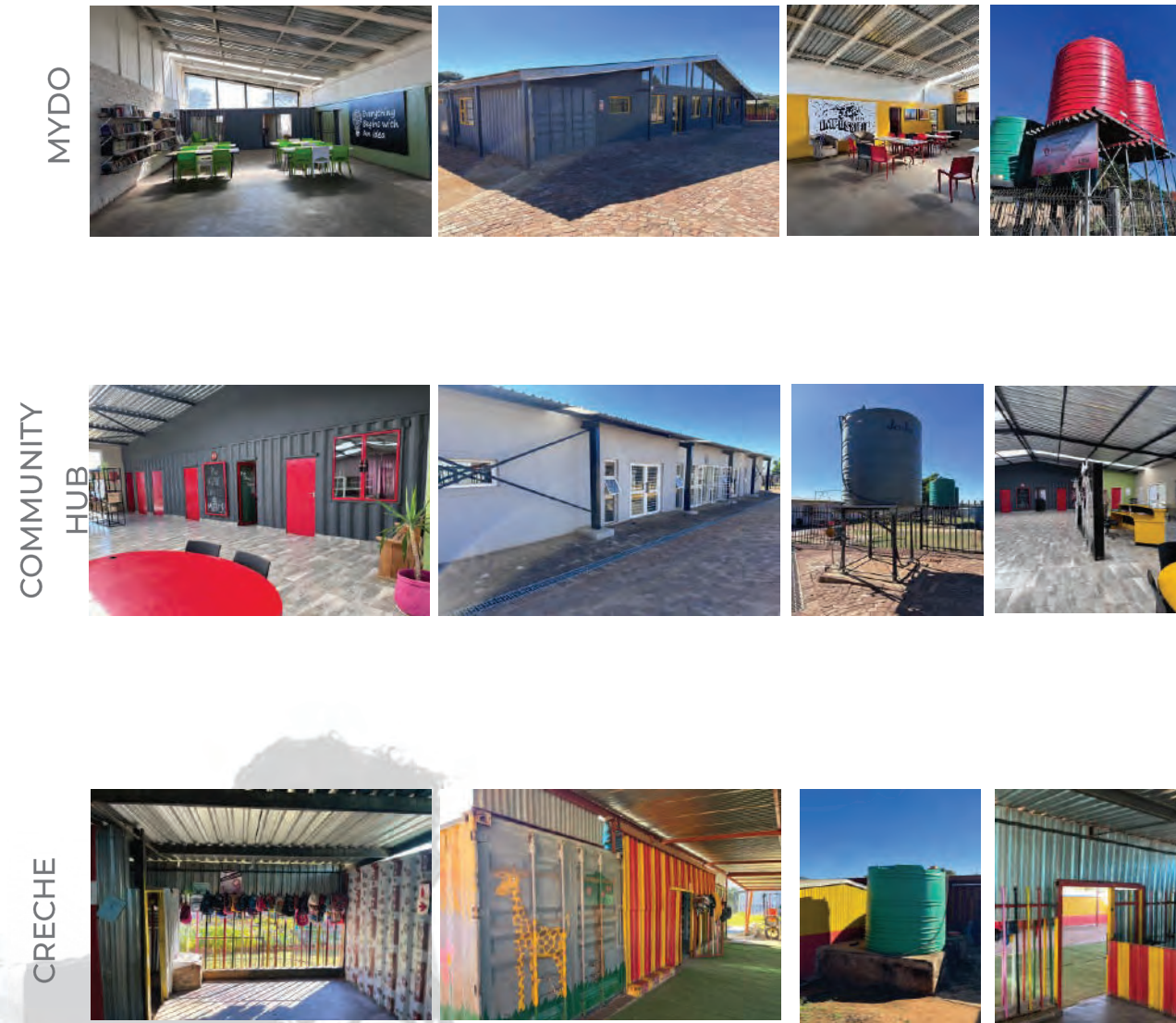


Figure 18: First order Meaning Making in Node (Basson 2024)

The node in which the project is planted is made up of warehouse and container typologies. We have considered the intangible meaning within the nodes, which are of a rich nature. The most permanent structure within the node is the community hub which is constructed out of more permanent materials such as brick. However, this structure consists of the least meaningful intangible programmes compared to MYDO and the Creche. There is a large need for upgrading MYDO as well as the Creche and upgrading the intangible programmes within the Community Hub so that the facility can be utilised to its full potential.

Indoor Environmental Quality

The existing site has two different typologies, namely a warehouse typology (MYDO and The Community Hub) and a container typology (The Creche). The indoor environmental quality is uncomfortable due to the building being South Facing toward the street and not correctly thermally insulated. The new intervention proposes to change the roof typology of the building to allow for more ventilation in the three buildings. New materials as well as insulation will be introduced to cool the façade of the buildings and shading devices will be introduced.

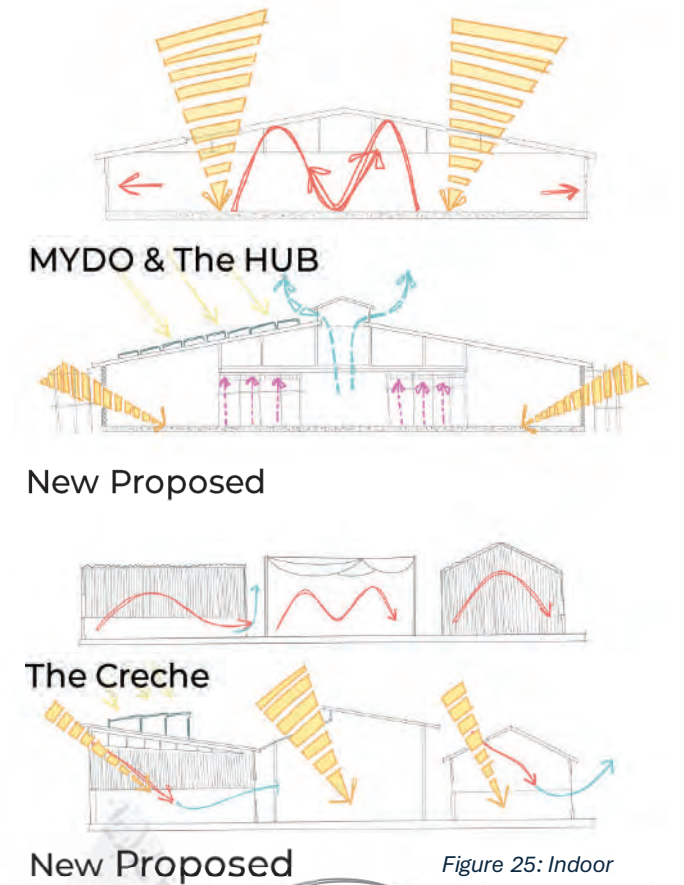


Figure 25: Indoor Environmental Quality

Bridges in Melusi

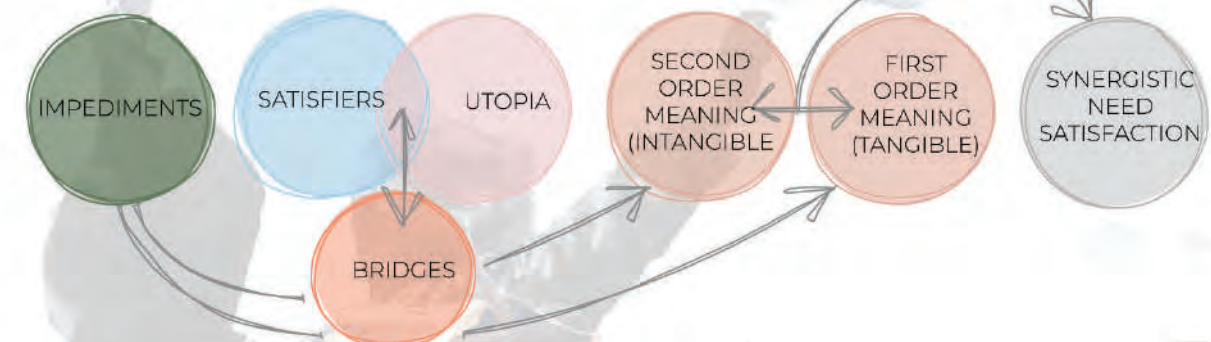


Figure 26: Bridges within Melusi

To create sustainability in terms of social and cultural populations (Ndovela, Olalere & Reynolds 2022) one must understand the context. Within this context, the intangible programmes are very rich. The bridge within the intangible is merely introducing more of the existing programmes. The intangible bridge of creation and inclusion can be implemented by introducing more facilities that are dynamic to cater for multiple programmes. By discovering how an interior architect could make use of its social compact, contextualise societal problems as well as identify potential solutions, it leads to a positive effect on societal balance (Ndovela, Olalere & Reynolds 2022). By incorporating more of the satisfied intangible programmes, and enhancing the tangible that facilitates this, it will inevitably lead to a positive effect on the societal balance within Melusi and lead to synergistic need satisfaction within the tangible as well as the intangible.

Conceptual Approach

The Rhizome

The Rhizome and Rhizomatic growth are the main concepts of this project. The rhizome concept is inspired by the rapid urbanisation of Melusi informal settlement. a rhizome is present not only in plants but also in the human body. This will be the Focus within this project. People, food and expansion

Rather than a linear development or progression, a rhizomatic text is composed of multiple points of entry. A rhizome is a lateral, decentered, proliferating, and interconnected web of relations and is therefore unlike the hierarchical (root, branch, offshoots) model of a tree.

A rhizome is present not only in plants but also in the nervous system of the human body and it also represents city growth. This will be the Focus within this project. People, food and expansion. The project aims to foster community growth through inclusion and skills and knowledge exchange, financial growth through local markets and outside investment and finally growth in food through farm to fork cooking.

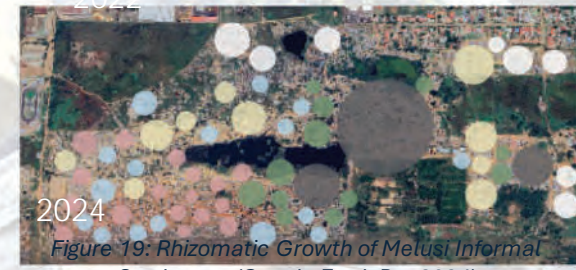
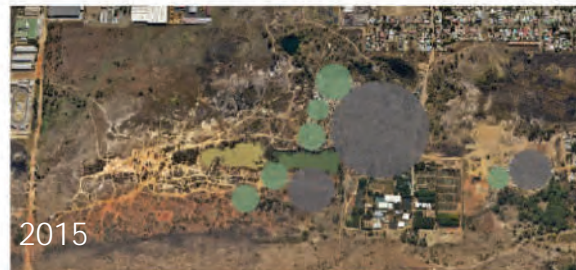
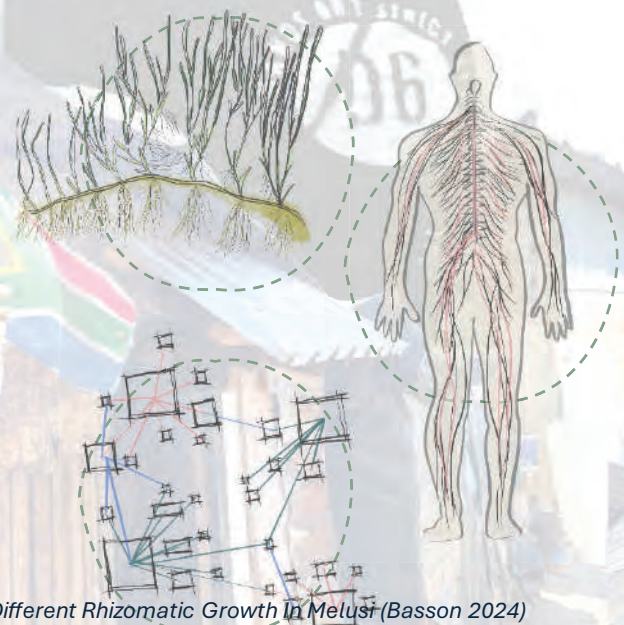


Figure 19: Rhizomatic Growth of Melusi Informal Settlement(Google Earth Pro 2024)

Figure 20: Different Rhizomatic Growth in Melusi(Basson 2024)

Gap Identified & Design Question

Design Question

HOW CAN AN INTERIOR ARCHITECTURAL INTERVENTION ACTING AS A RHIZOME, FOSTER INTERCONNECTED GROWTH WITHIN MELUSI INFORMAL SETTLEMENT?

Need satisfaction is significantly impeded within Melusi informal settlement because of the tangibles. The tangible within Melusi informal settlement does not support the rich intangible programmes present within Melusi. Through utilizing the interior architectural social compact, it is imperative to initiate trans functionalisation of the first and second order meaning to allow for synergistic need satisfaction.

Themes Identified

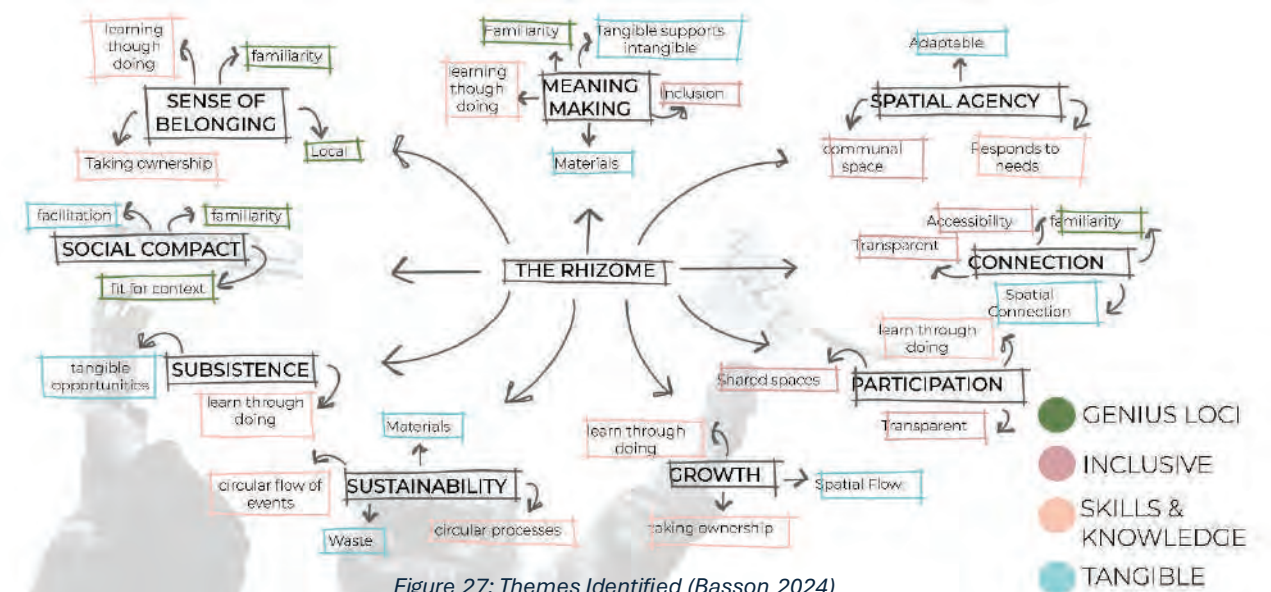


Figure 27: Themes Identified (Basson 2024)

Gap Identified



Figure 28: Main Gaps Identified (Basson 2024)

The Culinary Rhizome Programme



Figure 21: The Rhizome Culinary Programme (Basson 2024)

This information inspired the proposed program. The Rhizome is a culinary school with various facilities: a seminar kitchen, a rentable kitchen, a restaurant, and market stalls that the community can rent to sell their produce and food.

Integrated Programme

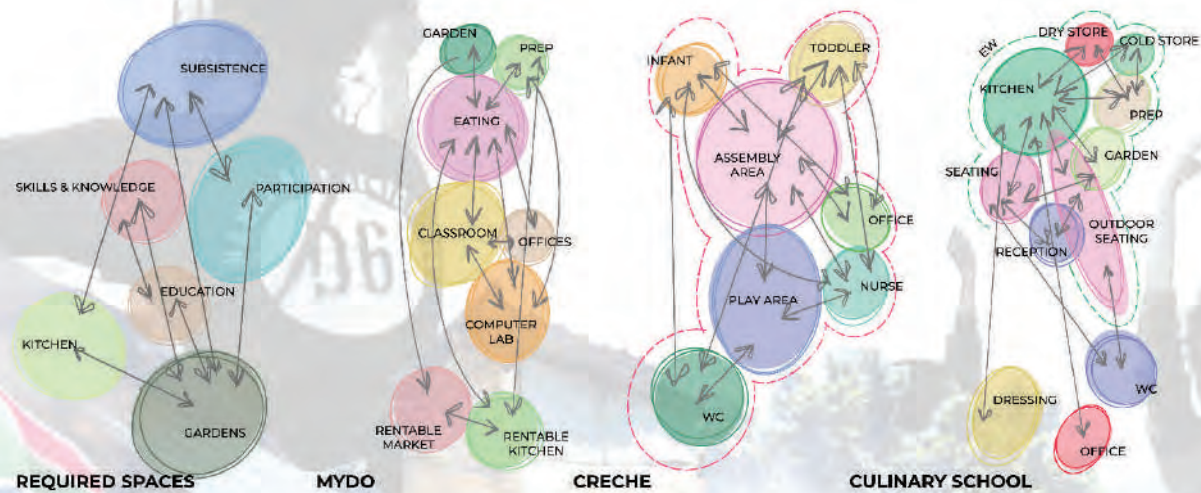


Figure 22: How the Programme integrates within the Existing Node (Basson 2024)

The precinct design upgrades tangible elements to better support intangible ones. It integrates existing programs like at MYDO and the creche with new initiatives such as community markets, a culinary school, and gardens. These additions foster creation, employment, skill development, and community engagement. The main programmes that would like to highlight is that of the culinary school. These programmes will act as the focus throughout the design.

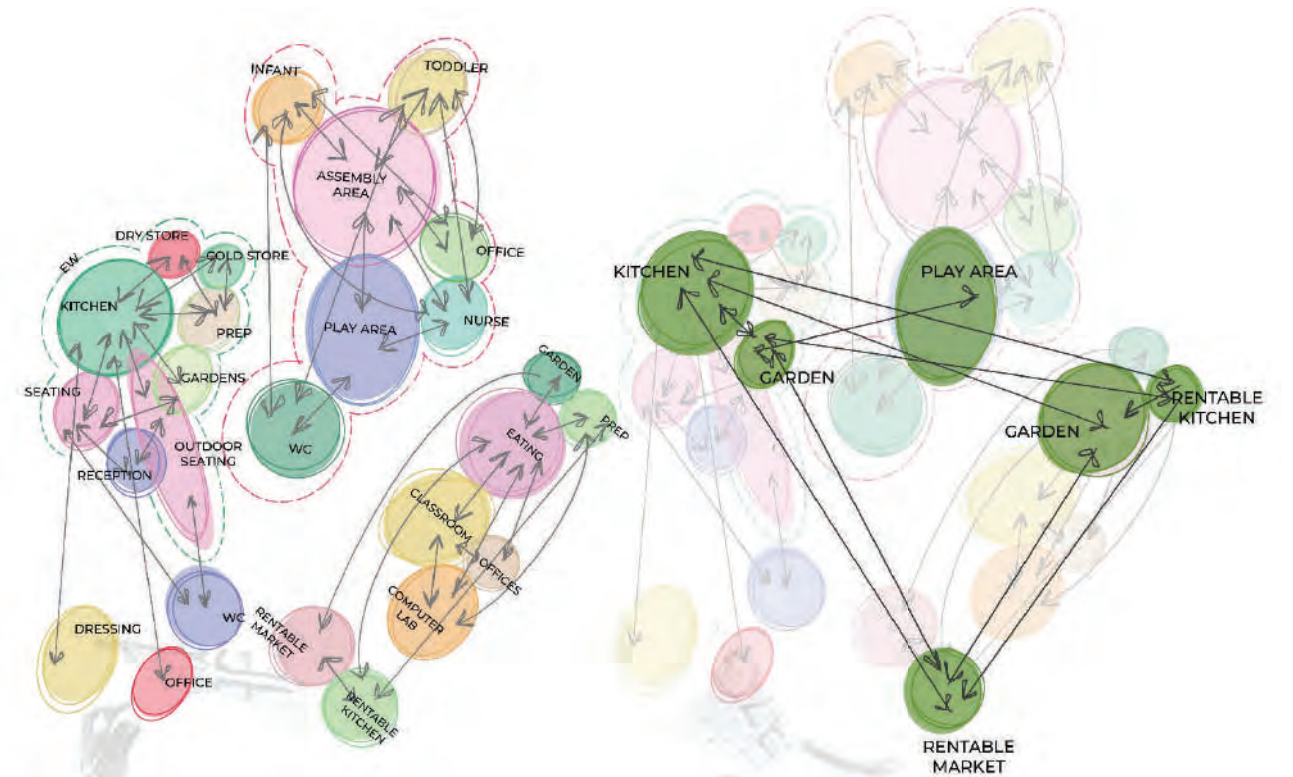


Figure 29: The Focus of the programme (Basson 2024)

The Culinary School, gardens, rentable markets, restaurant as well as the rentable kitchen will be the ties between the three precincts, with the markets and the culinary school being the main focal point.

Archetypes



Figure 30: Archetypes (Basson 2024)

Archetypal requirements

Busi

Archetypes in the program include Busi, the community "Mama". Busi is known in the community for her heartfelt cooking and outgoing personality. Busi will be the head chef and teacher at the school.

Lucia

Lucia is a student at the University of Pretoria and is very interested in the notion of healthy food as well as farm-to-fork cooking. She is well known through her peers as a green thumb.

Freeborn

Freeborn is a resident of Melusi and has a vegetable garden at his home. He would like to sell his produce however, he does not have the facilities to sell his goods.

Dina

Dina sells vetkoek and eggs in the mornings for the children going to school. She would like to expand her food business.

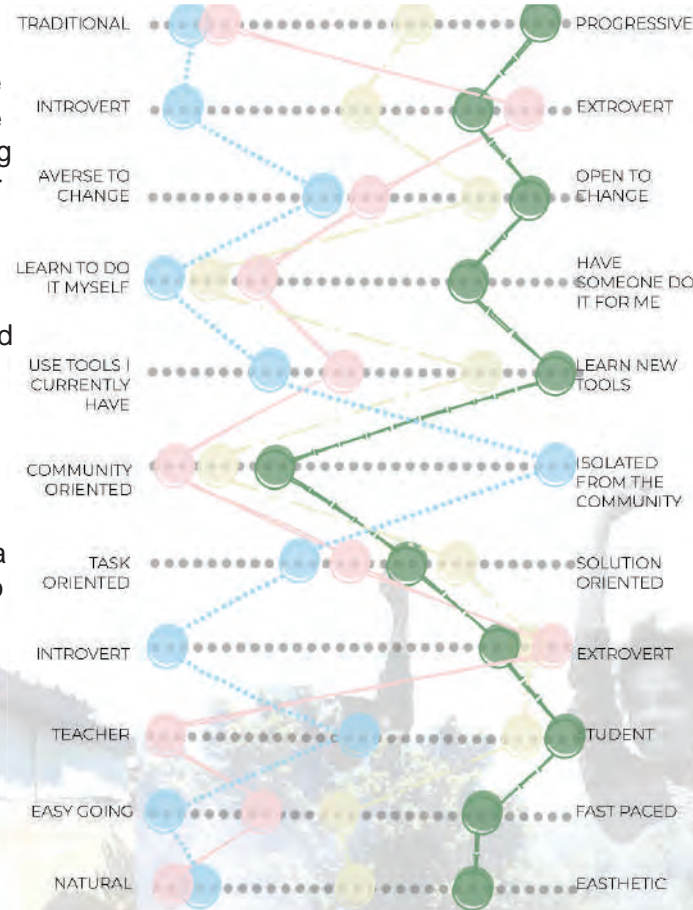


Figure 31: Archetypal Requirements (Basson 2024)

Second Order Meaning (Programme) Precedent

Makers Valley



Figure 35: Makers Valley (Basson 2024)

Victoria Yards has become a hub of creativity, collaboration, and community-driven initiatives. Through feeding programs, vegetable growing, resource trading, and supporting local vendors, they navigated the lockdown successfully and created new enterprise opportunities, establishing a model for future community upliftment. During the second week of lockdown, a Victoria Yards restaurant cooked meals for the community. As demand grew, community champions received kitchen packs to distribute food. The Makers Valley team visited over 2000 houses, giving starter kits to those starting vegetable gardens and contributing 20% of their produce to a collective feeding scheme (Thompson 2020).

R_urban

R_urban is in France within a housing estate on the periphery of the city. It combats unemployment with a productive and ecological complex consisting of community food gardens, an experimental micro-farm, a market, cooperative workshops and spaces for storing and reusing recovered materials. R-Urban consists of three test/pilot projects, each focusing on one major aspect to generate social, economic and ecological assets, including: recycling and eco-construction; civic urban agricultural; and ecological cooperative housing (Kropp & Luo 2014)



Figure 36: R Urban (Kropp & Luo 2014)

What did I take from this?

Both Makersvalley and R-Urban are examples of rhizomatic growth, are community orientated, create job opportunities, are for the community from the community and are accessible to everyone.

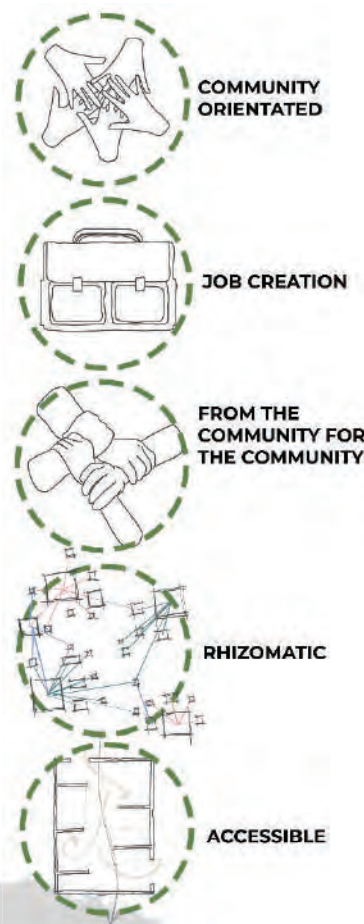


Figure 32: R Urban Interior (Kropp & Leo 2024)

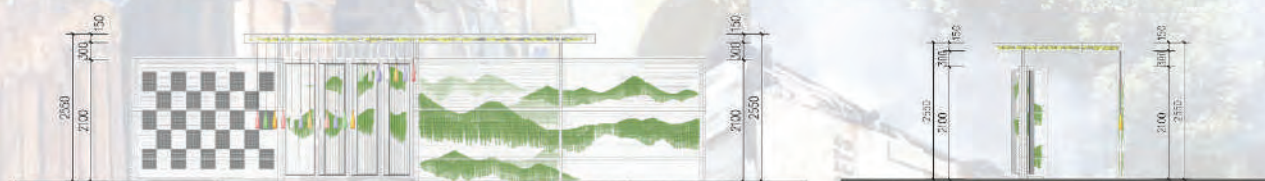
First Order Meaning (Spatial) Precedent

Zero Pavilion

The main aim of the project was to blend the Pavilion as if nothing was there. The pavilion was designed to blend into the landscape making the pavilion extremely fit for context. The project aims to give back to nature using polycarbonate sheeting and flexible PV for solar panel generation. The whole Pavilion is constructed from Recycled goods retrieved from the Zero carbon Garden (Zhang 2017).



Figure 33: Zero Pavilion (Zhang 2017)



Kasvattamo Greenhouse

Kasvattamo greenhouse, a temporary installation in the Helsinki Museum courtyard, raises awareness about locally sourced food and prototypes urban farming in vacant urban spaces. The structure mimics a plant's life cycle, growing with the plants. Its core is a modular scaffolding system with foldable tables and roofs for flexibility (Pintos 2020).



Figure 37: Kasvattamo Greenhouse (Pintos 2020)

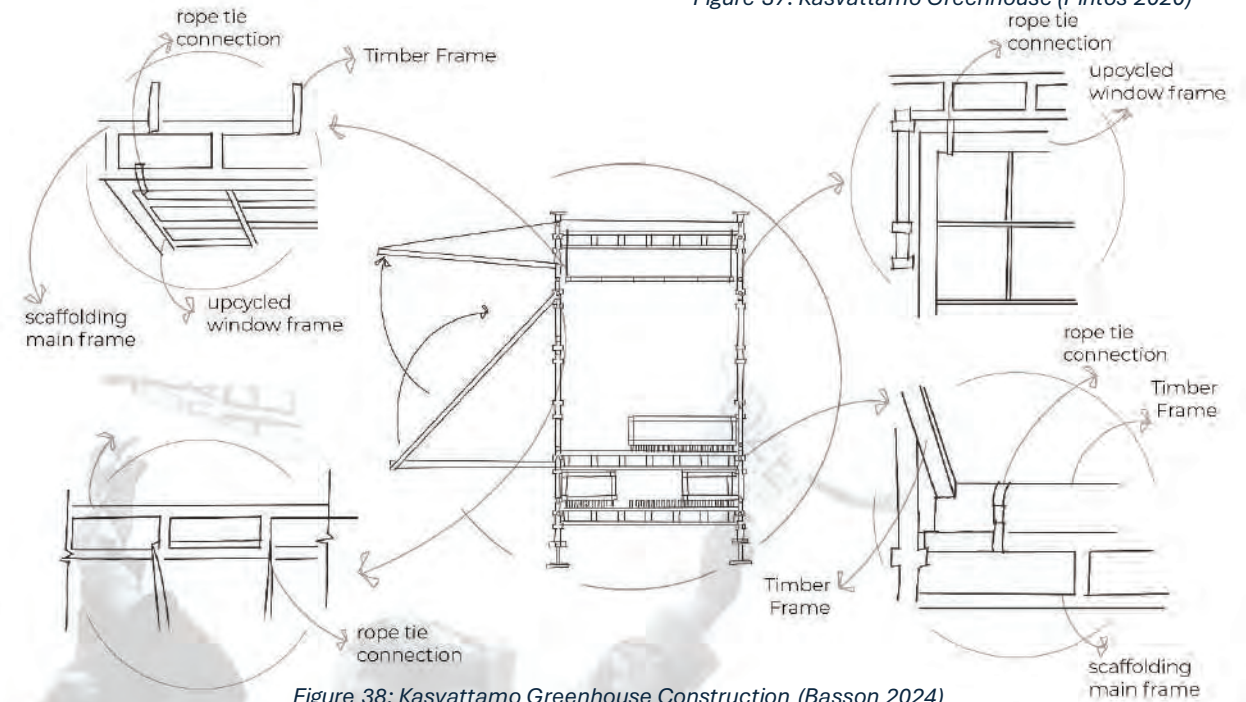
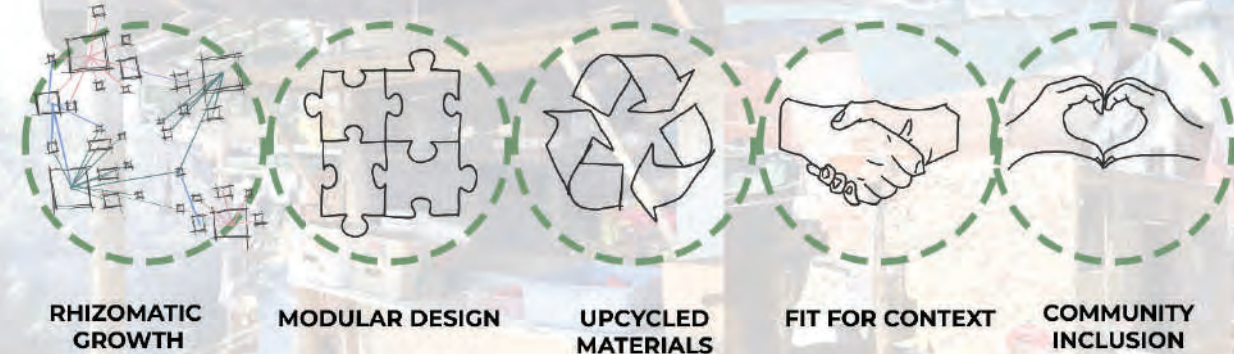


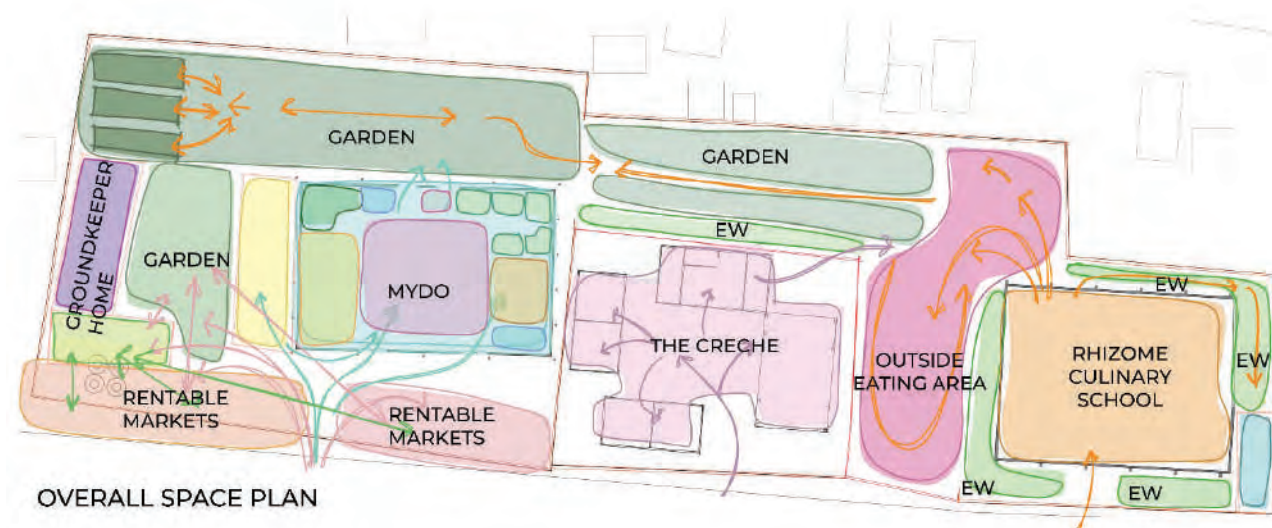
Figure 38: Kasvattamo Greenhouse Construction (Basson 2024)

What did I take from this?

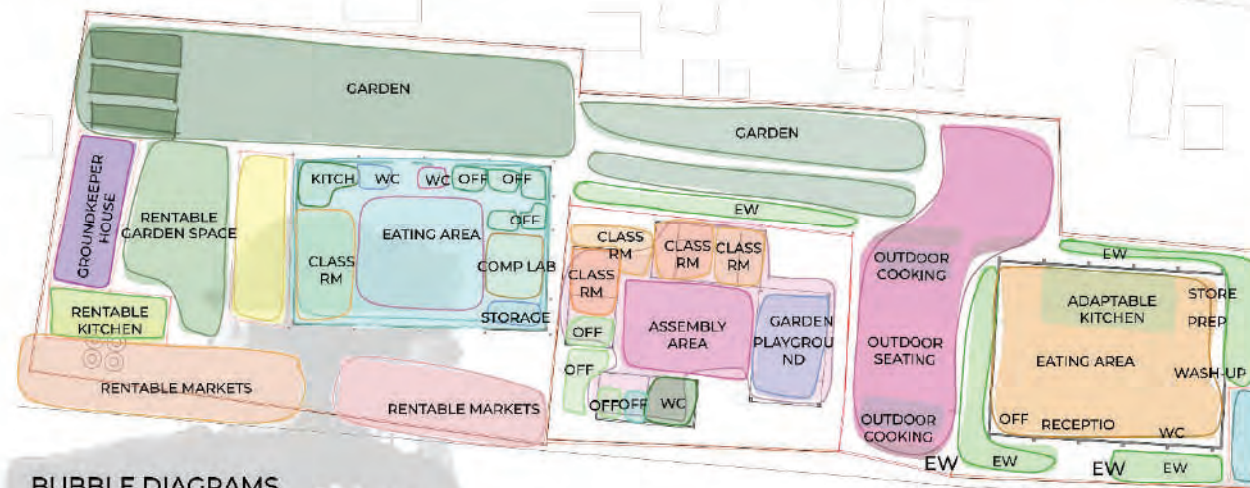
Both the Zero Pavilion and Kasvattamo Greenhouse are examples of rhizomatic growth, includes modular design, makes use of upcycled materials, are fit for context and include the community.



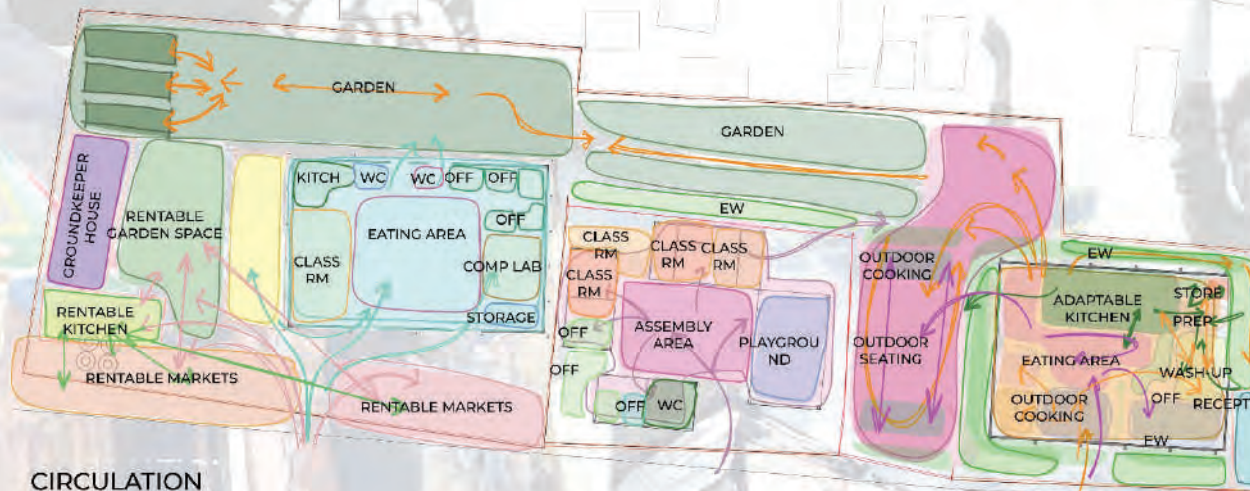
Spatial Allocation & Planning



OVERALL SPACE PLAN



BUBBLE DIAGRAMS



CIRCULATION

Figure 34: Spatial Allocation & Planning (Basson 2024)

The Rhizome Culinary School

The Rhizome culinary school is designed with a restaurant's functionality in mind. It features a back-of-house area with washing-up, prep areas, and cold and dry storage. The adaptable modular kitchen can be reconfigured during classes and receives produce from MYDO's gardens. Outside, there is a seating area and open fire cooking. Throughout the week the restaurant is closed, and the outside area will transform into a market space.

MYDO

Existing MYDO programs have been integrated into the spatial design, enhancing the layout and improving the warehouse typology. Newly added programs include a vegetable garden and rentable markets to support the culinary school. MYDO will receive its food for the feeding scheme from the culinary school. Other facilities have been added such as the upgrade for the groundkeeper housing, a rentable kitchen for the community and finally the markets. That will run throughout the week.

The Creche

The creche space planning has been optimized by creating more classrooms and changing the assembly area from the inside to the outside. An improvement of the playground is also in order and the rhizome restaurant will also make use of the playground area throughout the weekends. The creche will receive its food from the culinary school and the school also invites the children to take part in gardening throughout the week.

The Rhizome Plan

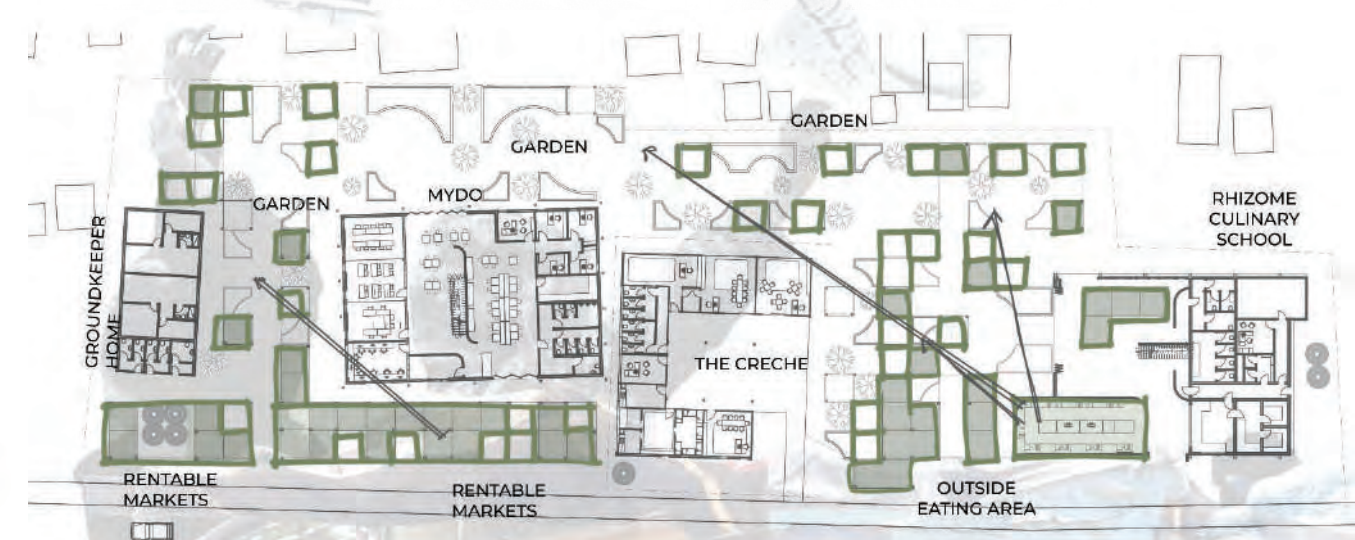


Figure 39: The Rhizome Space Plan (Basson 2024)

The space plan acts as a rhizome starting from a focal point or a growth point. In this case, the focal points are the culinary school and the markets. The rhizome disperses from the focal points throughout the space plan as the rhizome continues. Thus, it goes from denser, with more enclosure and stereotomic material palette, to more sparse, with open-pergola frame structures and lighter materials. This movement from more dense to more sparse is inspired by the Melusi building typology that ranges from more permanent to semi-permanent.

Material Palette & Renders

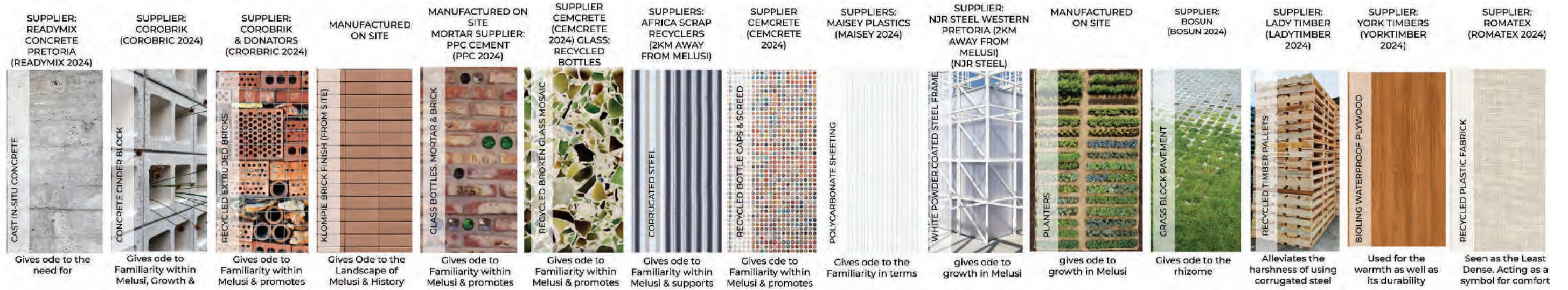


Figure 40: Material Palette (Basson 2024)

The space plan led to my decisions when choosing materials. I was very much inspired by the first order meaning documented within Melusi in terms of the materials and the construction thereof. The community makes use of repurposed materials in innovative ways. It is extremely important to make use of materials that the community is familiar with so that the intervention is not deemed alienated.

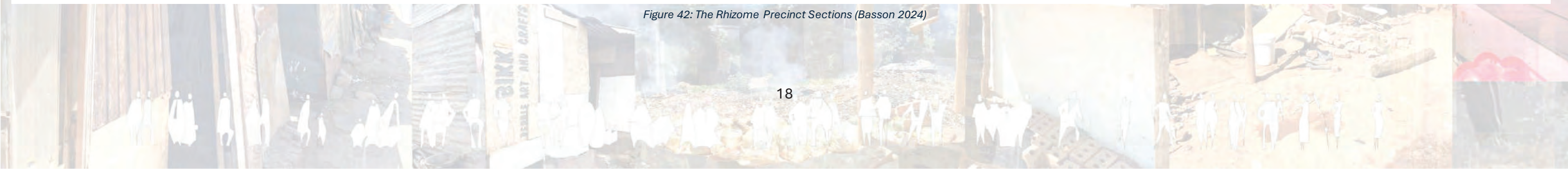


Figure 41: The Culinary Rhizome Renders (Basson 2024)

The Rhizome Precinct Sections



Figure 42: The Rhizome Precinct Sections (Basson 2024)



Technical Considerations & Questions

HOW CAN THE TECNIFICATION (TANGIBLE) OF THE RHIZOME FACILITATE SKILLS AND KNOWLEDGE EXCHANGE, GROWTH & ADAPTABILITY WHILE EVOKING A SENSE OF BELONGING AND FAMILIARITY

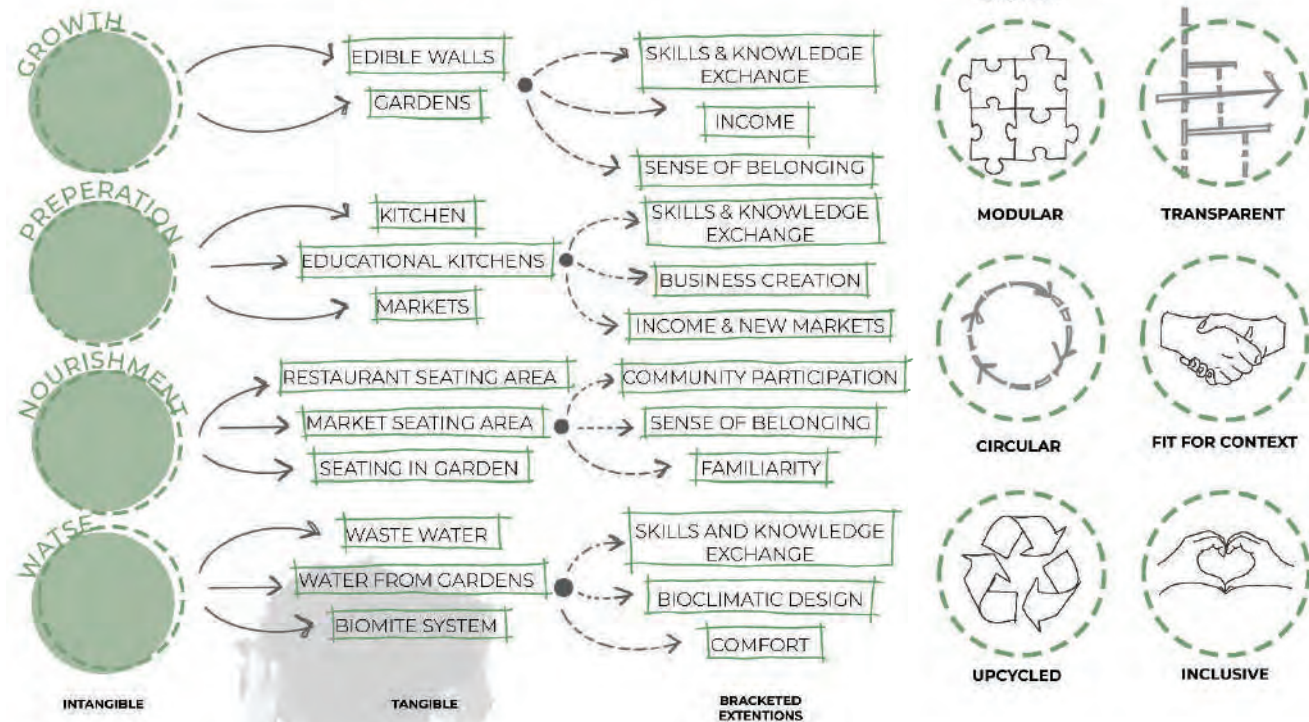


Figure 44: First order and Second order Meaning of Nodes (Basson 2024)

The Tangible of The Rhizome is inspired by the innovative usage of building materials within Melusi Informal settlement. It is of great importance that the tangible supports the intangible programmes of the Rhizome but also seems familiar and inclusive to the Melusi community so that the community does not deem the space as alienated. Genius loci is a key consideration for the technical. The main aim of this project is for the tangible to support the intangible programmes of skills & knowledge exchange, economic growth and community participation & inclusion.



Figure 43: Technical Criteria (Basson 2024)

Nodes Chosen & Relation to Rhizome Concept

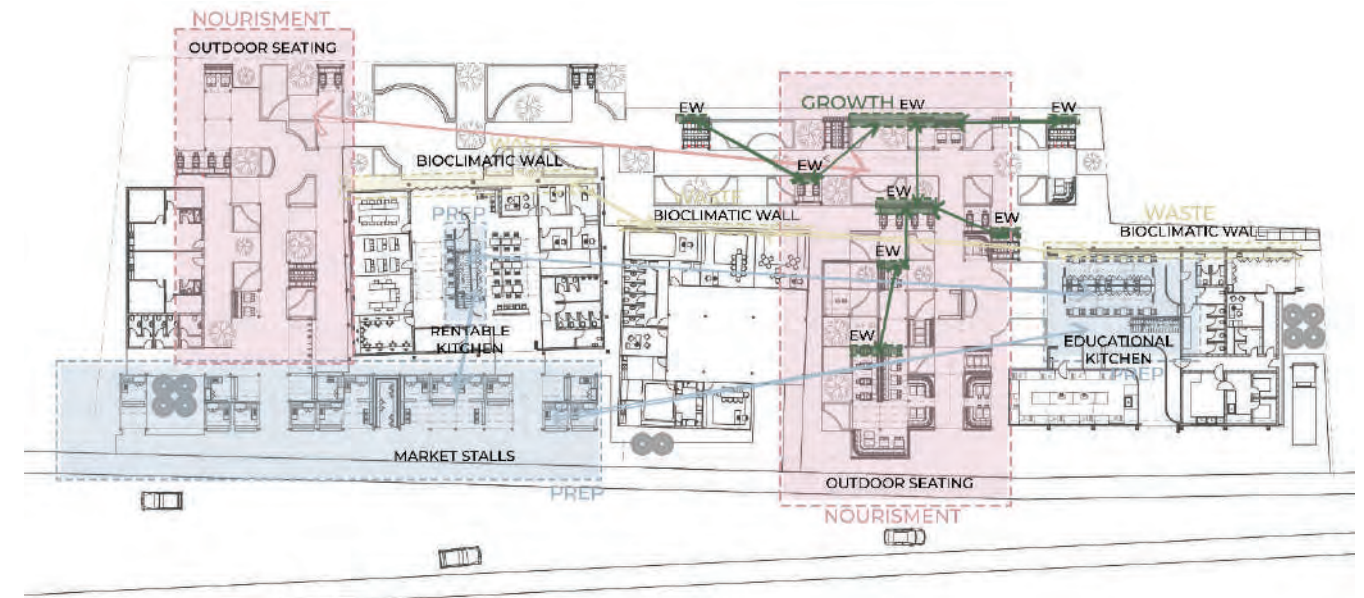


Figure 50: Nodes Chosen (Basson 2024)

Herewith, I have chosen nodes based on a criteria according to the considerations I had to make to allow for the tangible to support the intangible. The nodes that were chosen was Growth; which is the growth of the edible walls, the vegetable gardens and the growth of the steel structure that facilitates all the nodes and acts as the rhizome. Prep, as mentioned, the rentable markets, rentable kitchen locate in MYDO as well as the adaptable culinary kitchens. Nourishment, which is the seating area scattered along the site. And finally the waste. Which includes bioclimatic design that includes a biomite water treatment system to create a cooling façade utilising processed water.

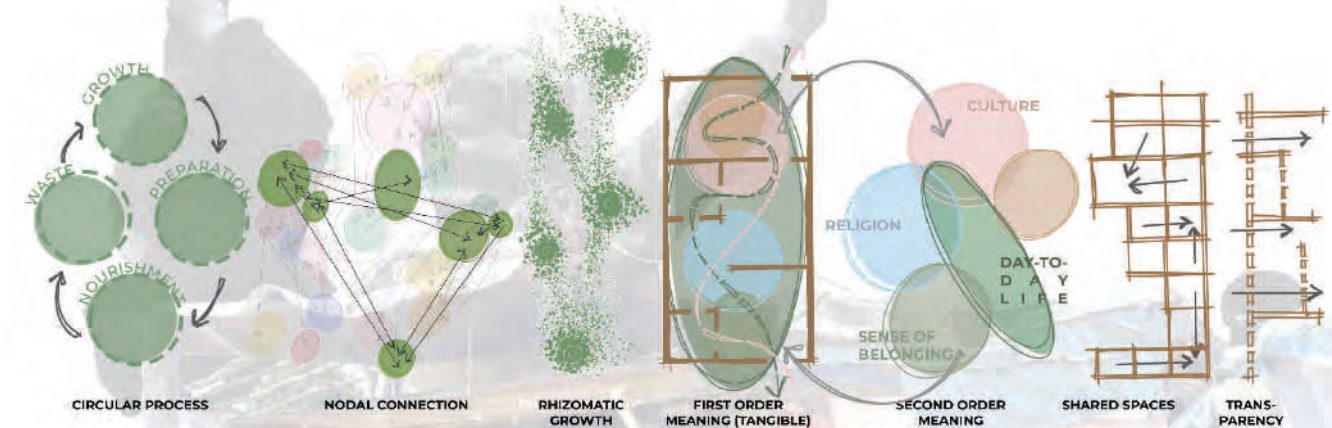


Figure 51: Considerations for Technical Nodes (Basson 2024)

I had to investigate what tangible will support these intangible processes. For example the prep of the farm to fork cooking will take place in the rentable markets, the rentable kitchen as well as the culinary adaptable kitchen. Herewith comes bracketed extensions which are the programmes that I would mostly like to support. In this case these tangible elements allow for skills and knowledge exchange, business creation as well as new markets & income.

Node 1: Growth | Edible Wall

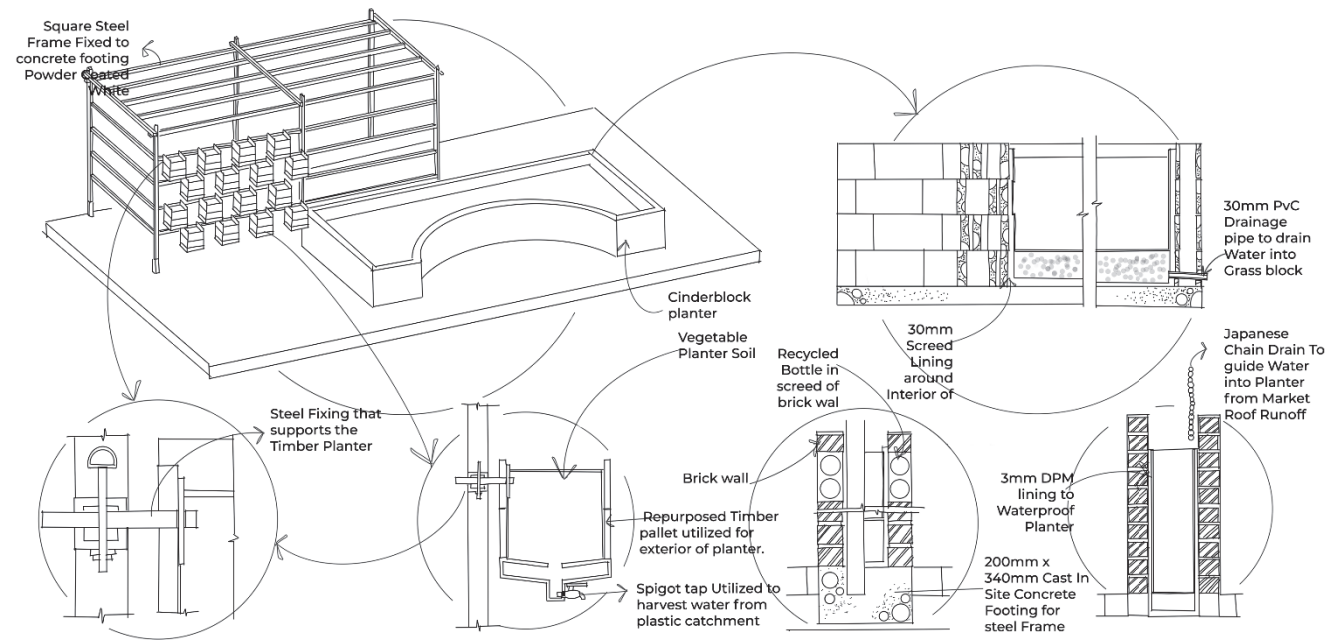


Figure 46: Node 01 Detail Exploration (Basson 2024)

The Growth node is supported by the tangible that includes the edible walls and the planters throughout the site. The edible walls support the intangible programmes of skills and knowledge exchange through teaching the culinary students how to grow vegetables. It also supports the intangible programme of a sense of belonging since the community possibly feels that they contribute to the site by growing the vegetables. The growth node also allows for generation of financial income since a bartering system is put in place. This bartering system allows the community to rent the market spaces by working in the garden for a set amount of time. The edible wall node was designed to house specific plants and it was designed for ease of usage by enabling the user to remove the planters from the pergola system. The edible walls are housed by the sparse pergola system that mostly features on the northern edge of the site.

Node 2: Preparation | Kitchen & Market

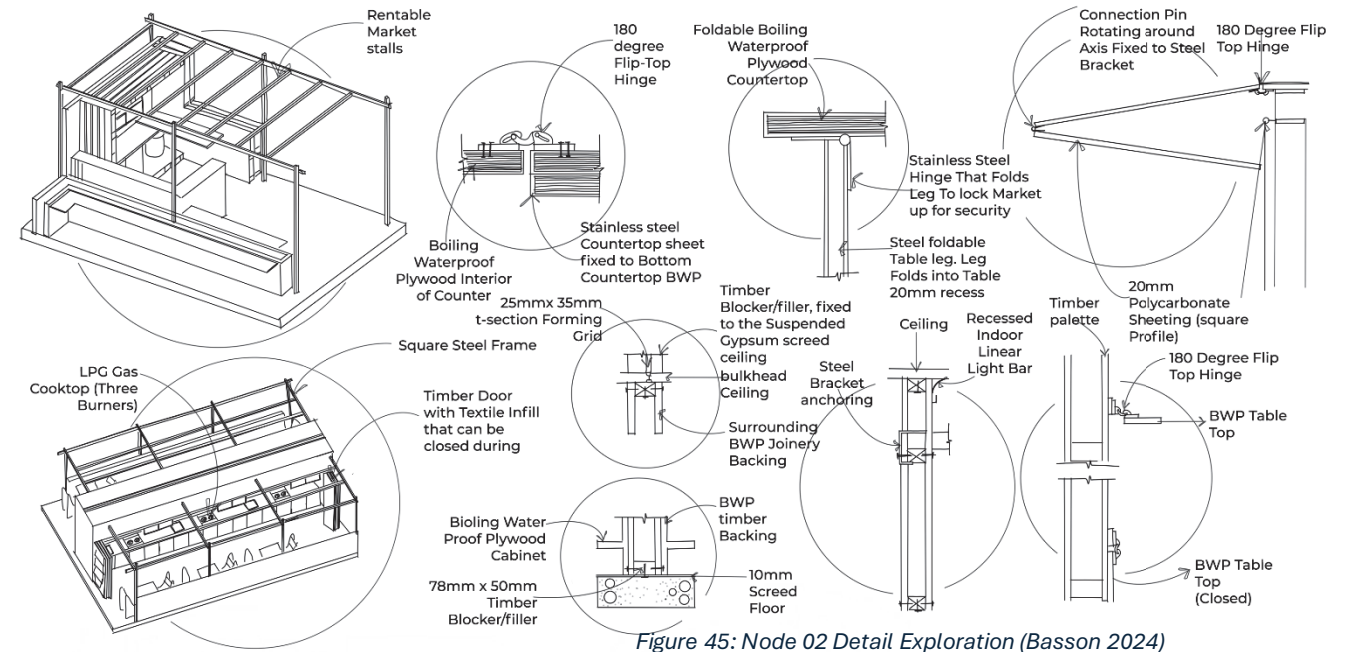


Figure 45: Node 02 Detail Exploration (Basson 2024)

The Preparation node is supported by the tangible that includes the rentable markets and the interior culinary kitchen as well as the rentable kitchen in MYDO. The tangible culinary kitchen supports the intangible programmes of skills and knowledge exchange by teaching the students about farm to fork cooking practices and it allows for income, business creation and new markets by inviting individuals who do not live in Melusi to invest in the Node. The rentable markets that are supported by a bartering system supports the intangible programmes of business creation since individuals from the community can rent the markets for business creation thus supporting the intangible programmes of new markets and income creation. The Rentable markets have been fitted out with a louvre panel that can open the day to provide shading and can close during the evening to provide security. With this, there is a foldable table to that houses the Gas stove that can be stored away. The Culinary kitchen will only be utilised throughout the week, thus it also can close.

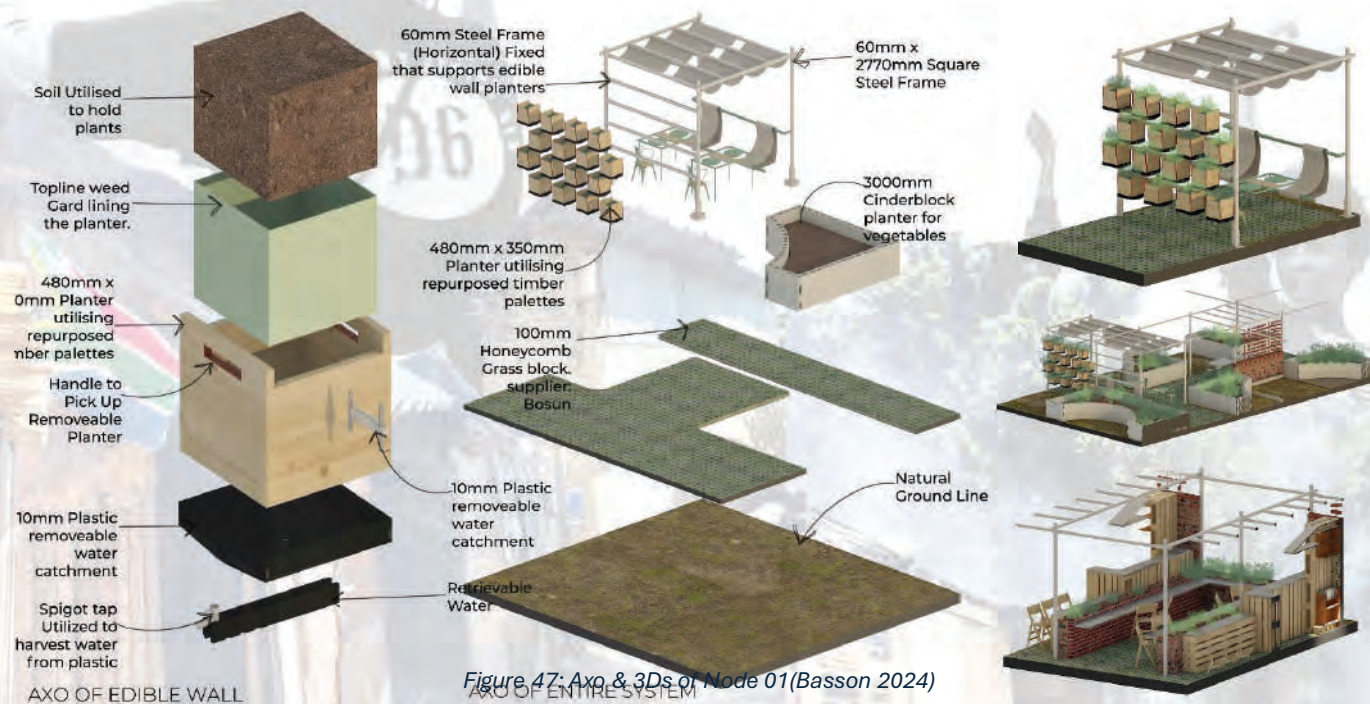


Figure 47: Axo & 3Ds of Node 01 (Basson 2024)

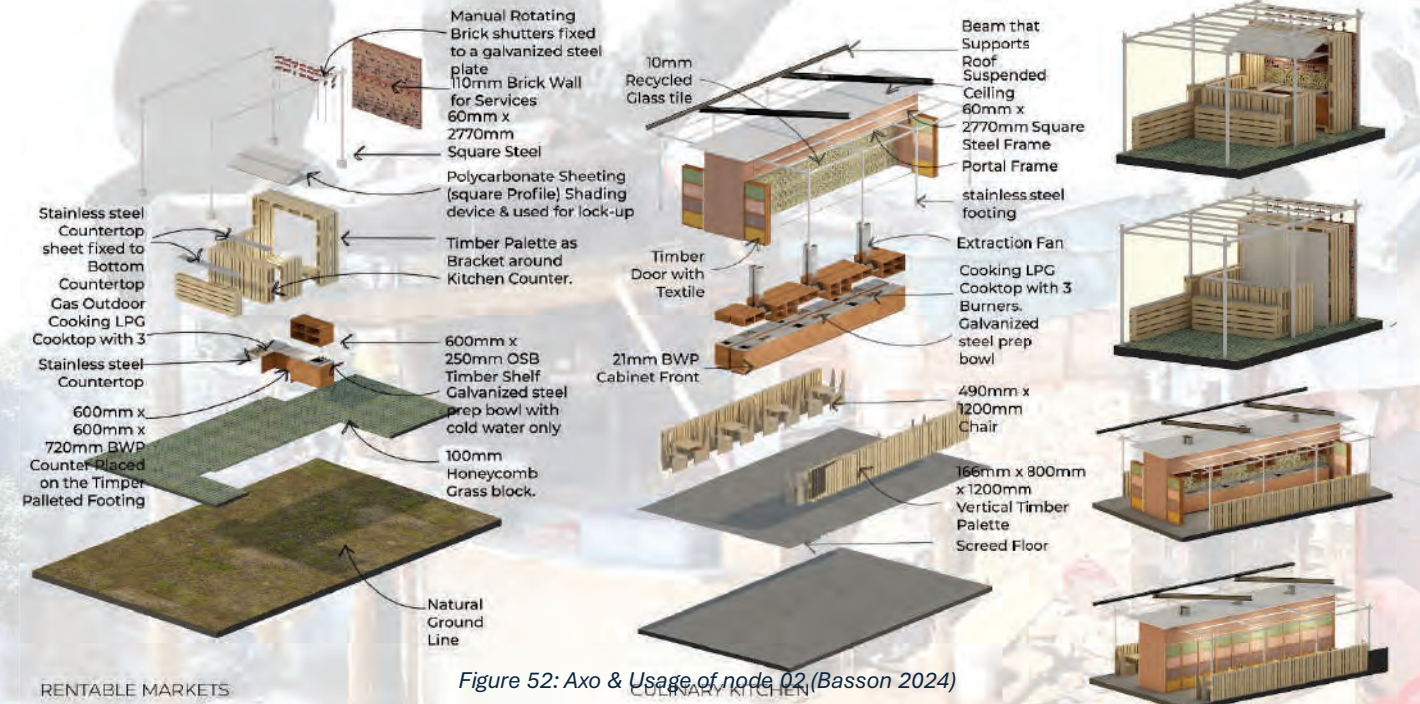


Figure 52: Axo & Usage of node 02 (Basson 2024)

Conclusion

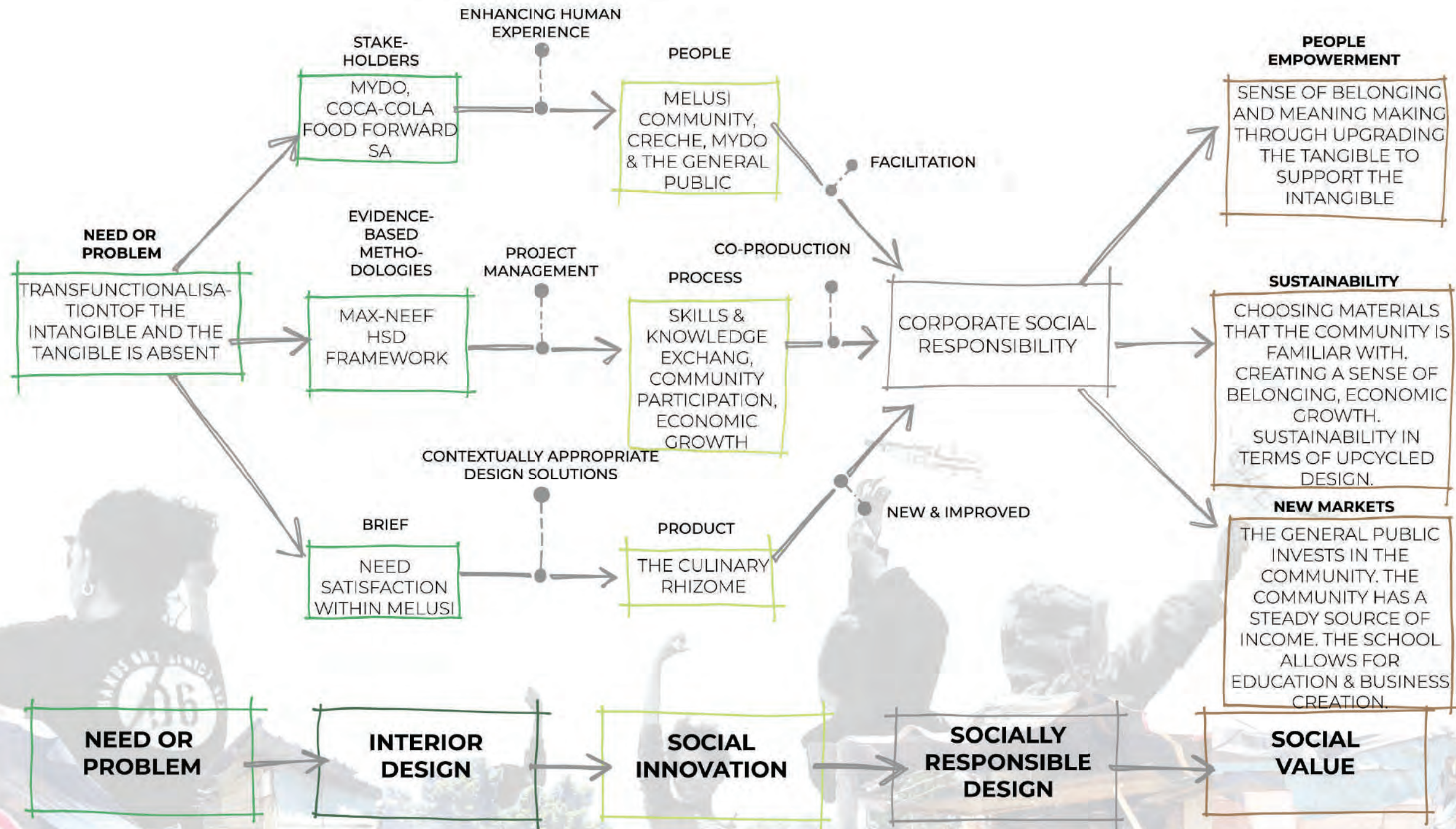


Figure 56: Interior Architectural Social Compact connected to the Culinary Rhizome (Basson 2024)

The largest social need or problem identified in this project is that the tangible and the intangible are not in harmony. The stakeholders involved are MYDO, CoCA-cola and Food Forward SA. The people concerned, in this project, is the Melusi Community, the Creche, MYDO and the general public. By creating a tangible product (or spatial product) that facilitates skills & knowledge exchange, community participation and economic growth through the culinary rhizome it leads to synergistic need satisfaction and transfunctionalisation of the tangible and the intangible. By integrating the culinary school programme and updating the facilities it leads to people empowerment, sustainability as well as new markets.

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T H E C U L I N A R Y R H I Z O M E

F o s t e r i n g
Community Growth, Economic
Growth, Community Inclusion
& Skills Development within
Melusi Informal Settlement.

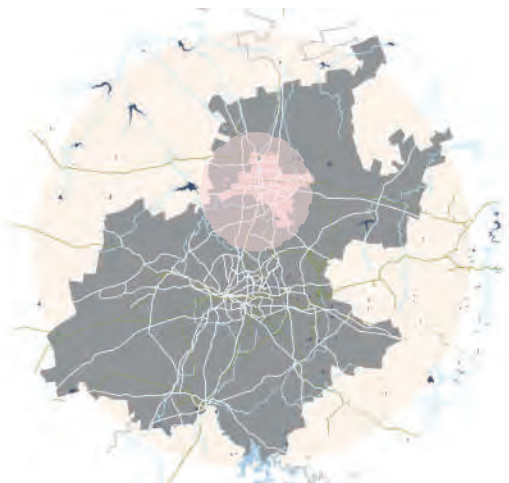
The project The Culinary Rhizome is planted within Melusi informal settlement. The Rhizome is a culinary school fostering community growth, celebrating cooking as a participatory practice and aspires to allow for economic growth within Melusi. Its programs offer innovative cooking and recycling methods, inviting the Melusi community to participate in skills and knowledge exchange as well as business creation. The school also welcomes the general public join in on the experience



By
Louné Basson
u19056355







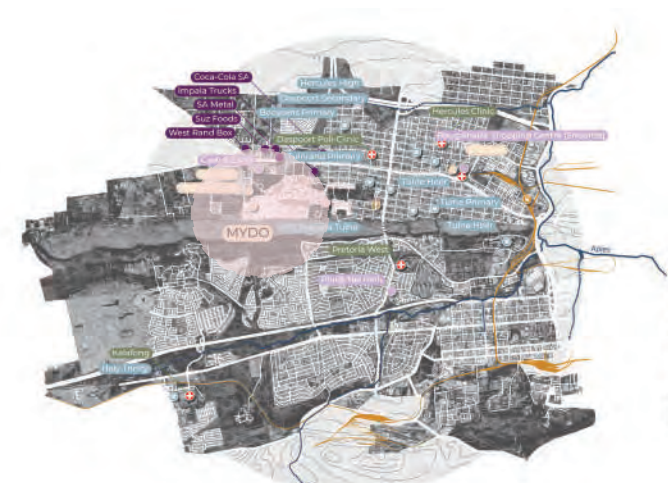
GAUTENG SOUTH AFRICA



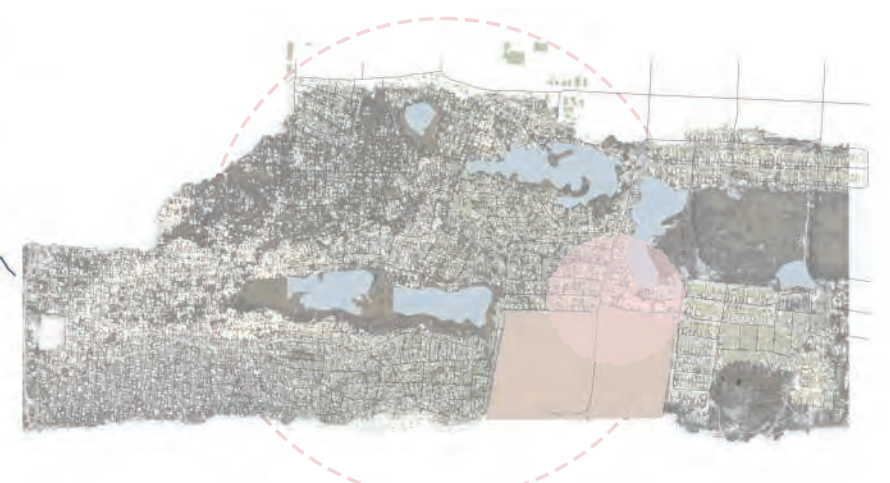
PRETORIA,



WESTERN PRETORIA



NODES OF INTEREST AROUND MELUSI



MELUSI INFORMAL SETTLEMENT

(Basson 2024 Adapted from Unit from Urban Citizenship 2023)

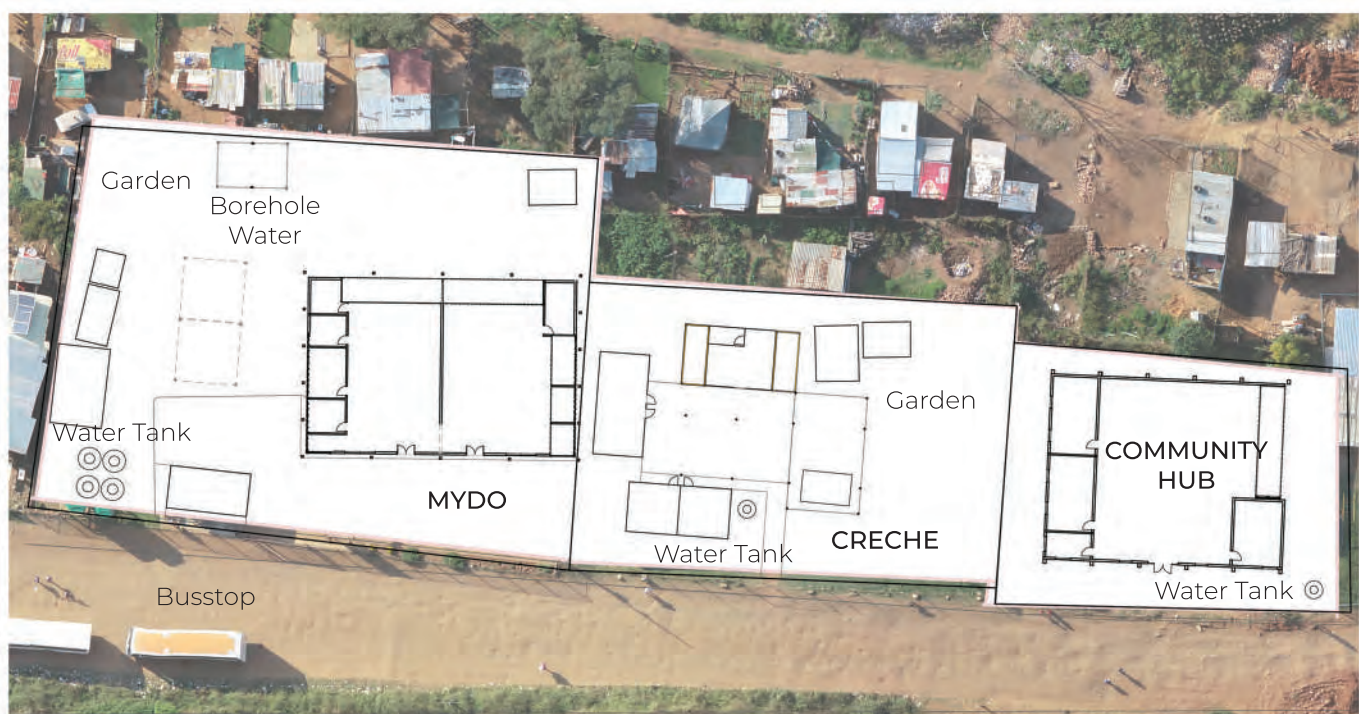
- VEGETATION
- FOOD POINTS
- WATER POINTS
- SANITATION POINTS



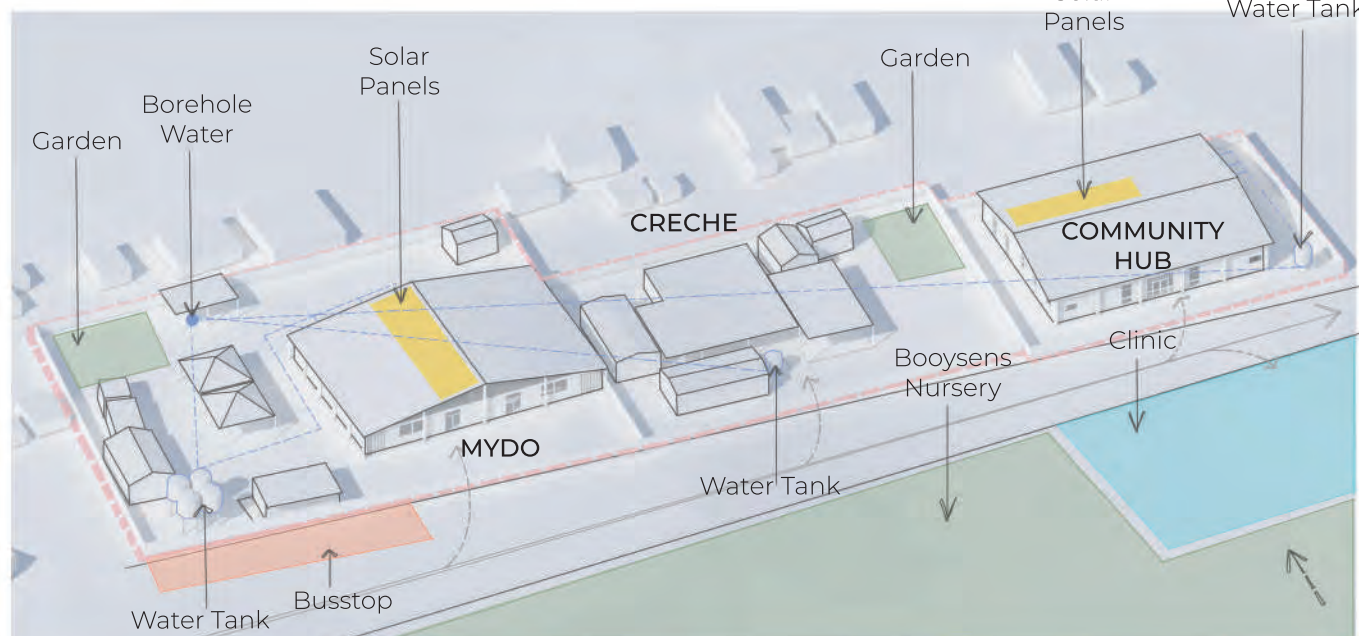
POINTS OF INTEREST IN MELUSI
SITE & CONTEXT MACRO AND MESO MAPPING

(Basson 2024 Adapted from Unit from Urban Citizenship 2023)

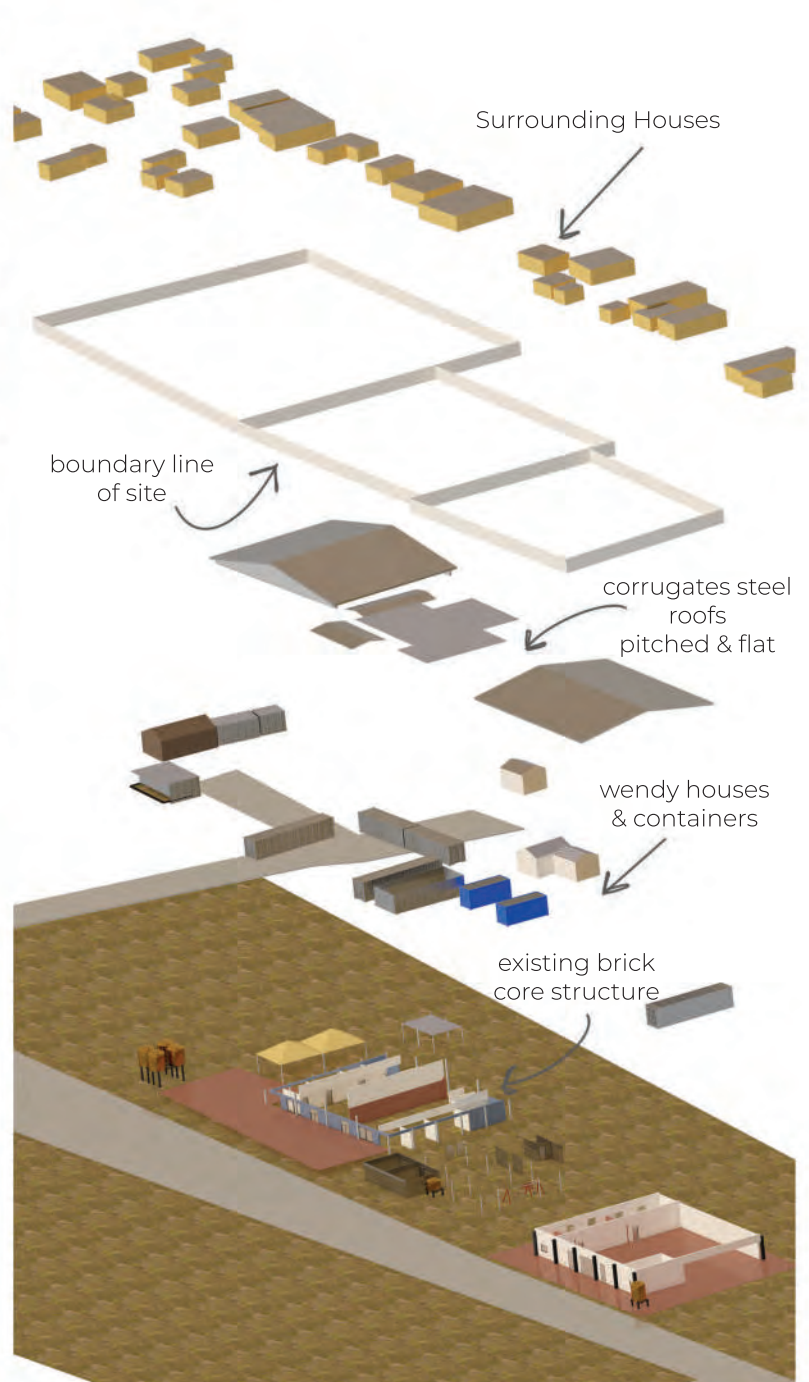




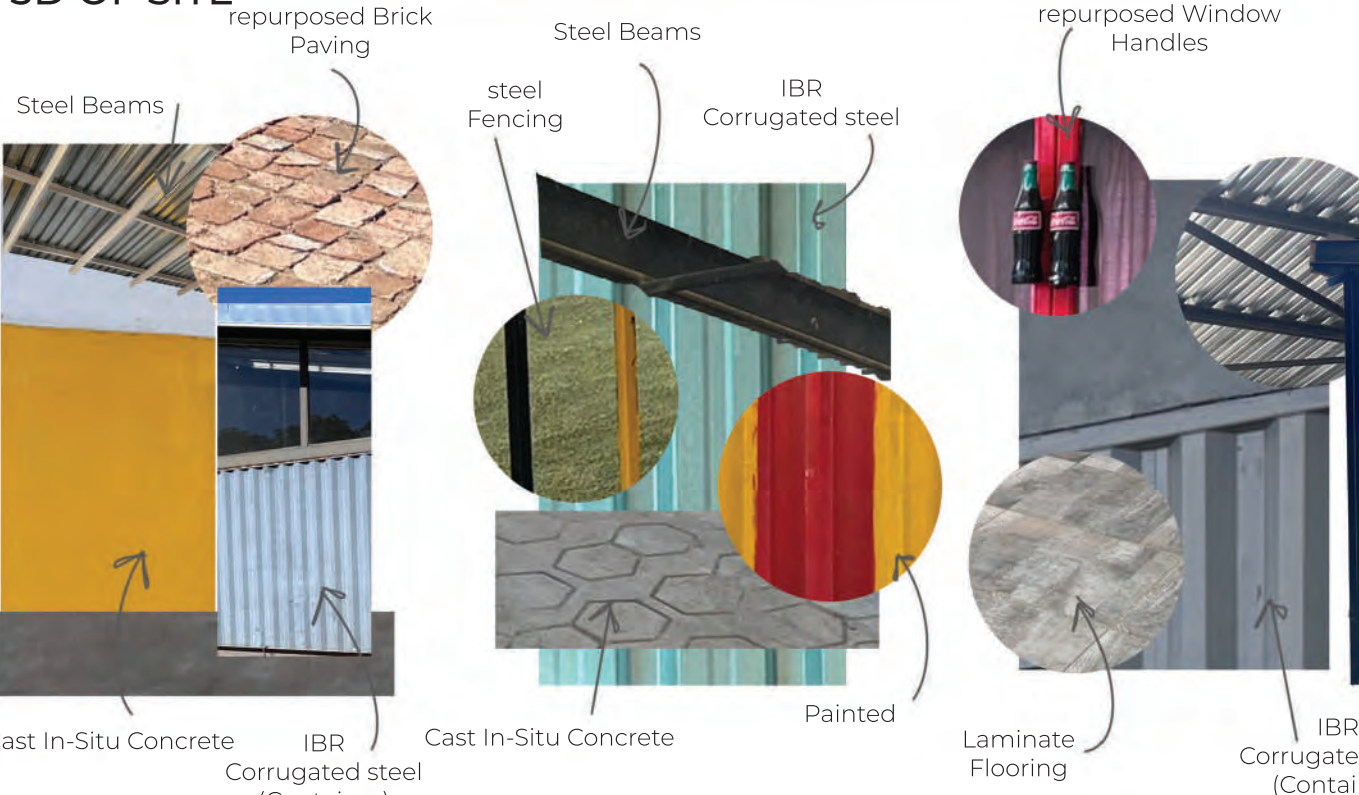
SITE IN CONTEXT AND PLAN



3D OF SITE



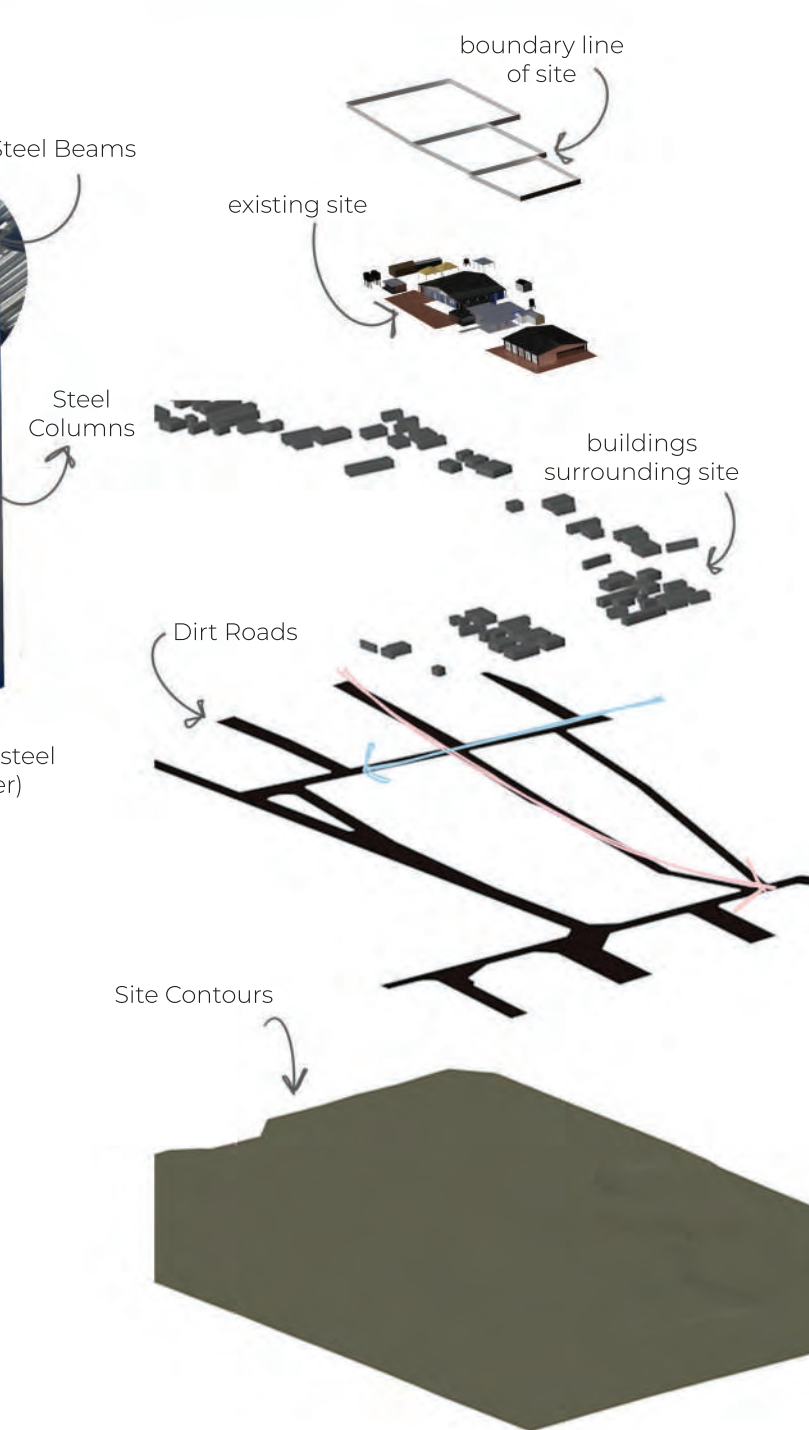
AXONOMETRIC OF BUILDING



MYDO MATERIALS ON SITE

CRECHE

HUB



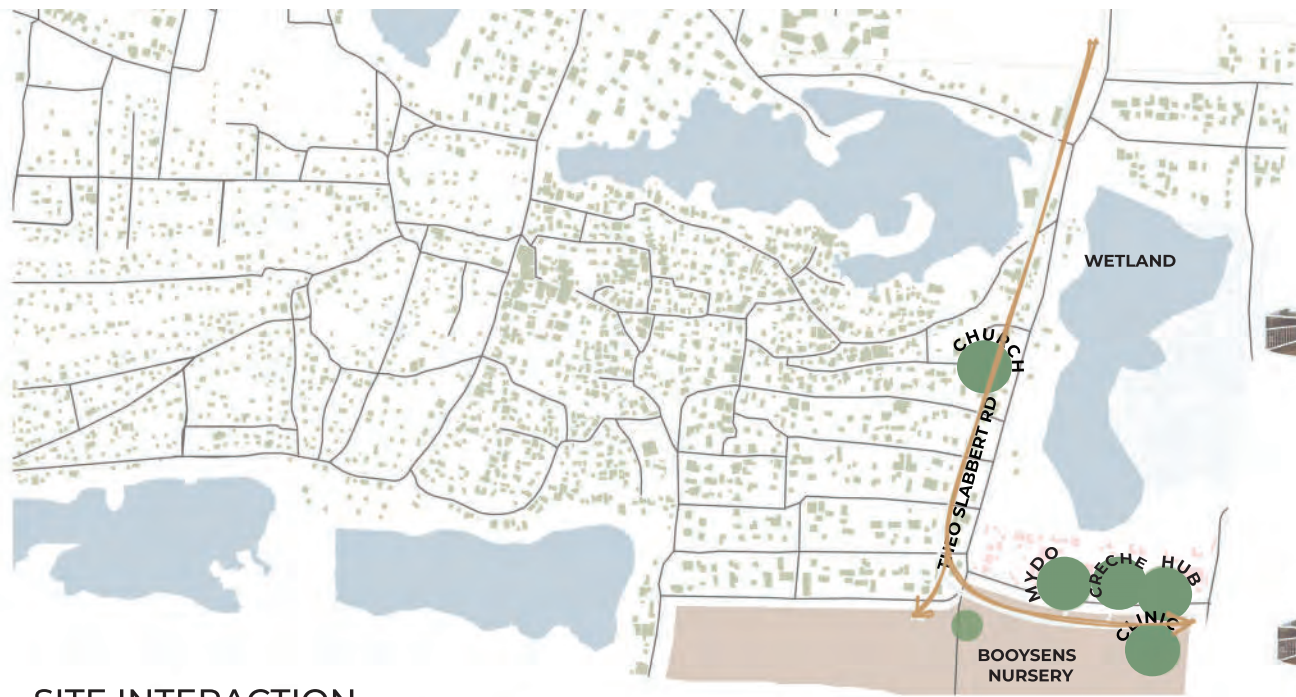
AXONOMETRIC OF SITE

PROGRAM	INCLUSIVITY	SERVICES	MATERIALS	STRUCTURE
<p>MYDO houses very rich interior programmes of skills & Knowledge exchange as well as safety</p> <p>The Creche houses rich programmes of safety & Education</p> <p>The Community Hub acts merely as a facility. Leaving much potential for intervention</p>	<p>MYDO: although Inclusive, the facility can only cater for minimum of the community</p> <p>The Creche: Very Inclusive (Children)</p> <p>The Community Hub: Potential for more Inclusivity</p>	<p>MYDO: Has Solar Panels but not adequate enough. & has Borehole</p> <p>The Creche: Has watertank from borehole, No electricity</p> <p>The Hub: Has watertank from borehole. Has Solar Panels but not adequate enough</p>	<p>MYDO: Makes use of Container, IBR & Brick. Very own to community, However indoor quality is not comfortable</p> <p>The Creche: Repurposed materials, Mostly Container</p> <p>Hub: Same as Mydo, More comfortable</p>	<p>MYDO: Warehouse Typology, Indoor Quality, Not Comfortable</p> <p>The Creche: Container Typology, Not Comfortable</p> <p>Hub: Warehouse Typology, Indoor quality, not comfortable. Lots of glare</p>

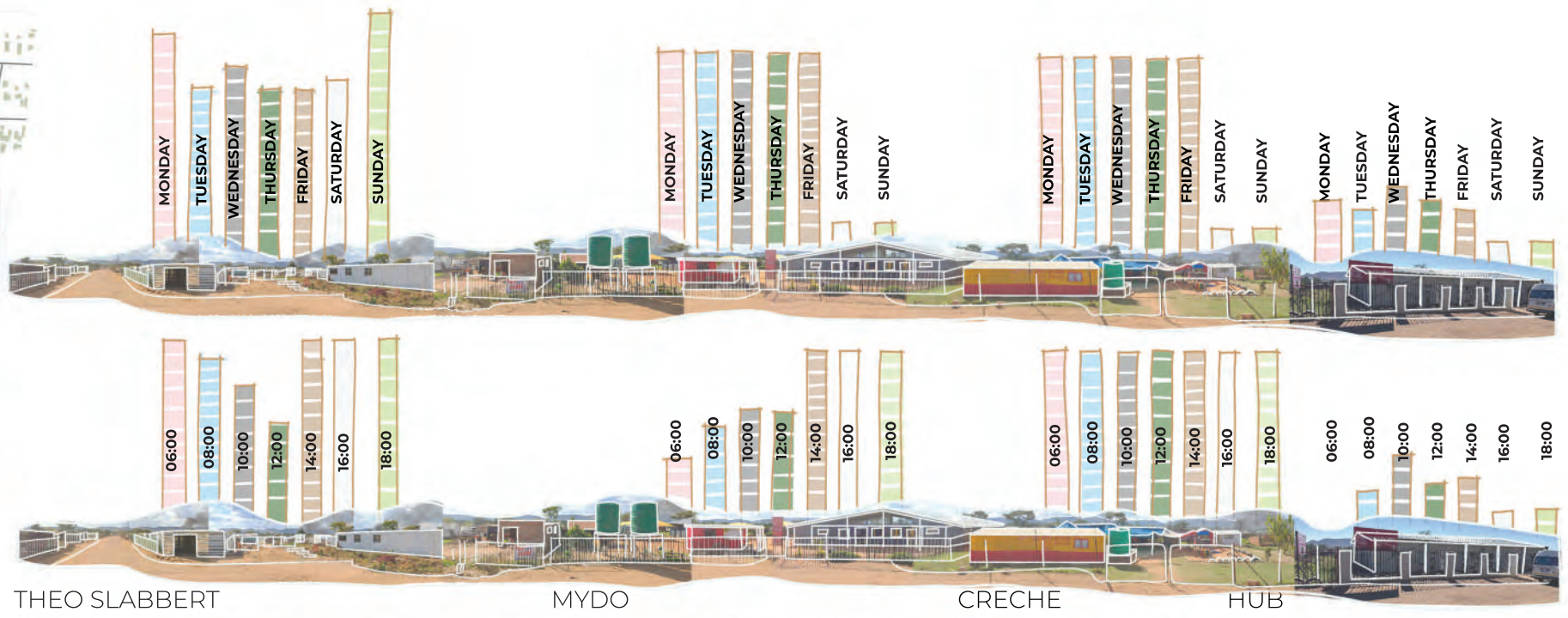
SWOT ANALYSIS

CHOSEN SITE & EXISTING





SITE INTERACTION



THEO SLABBERT

MYDO

CRECHE

HUB



MYDO

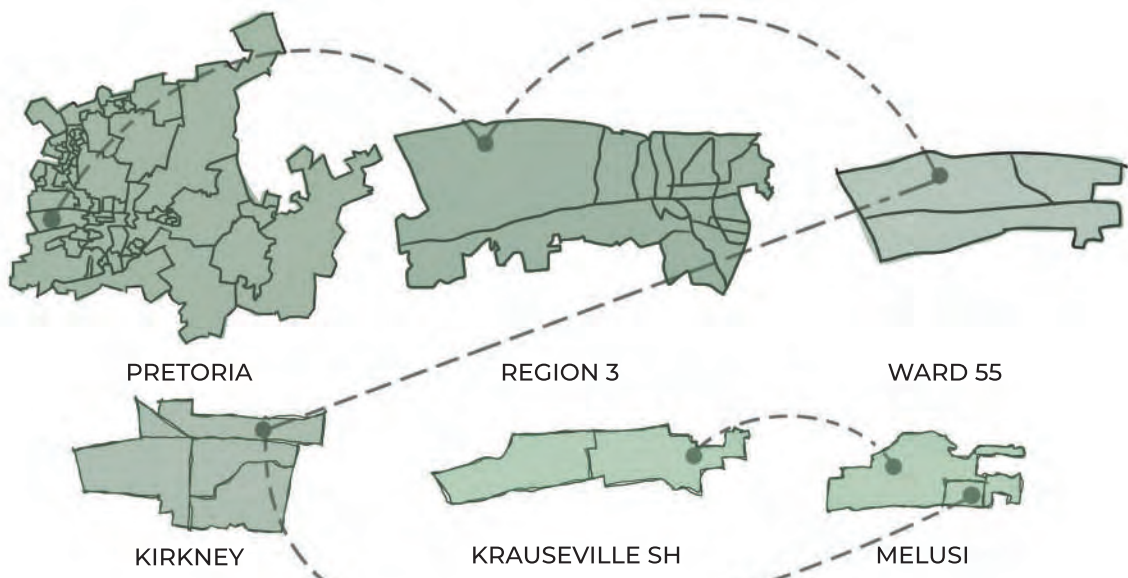


HAPPY SABI CRECHE



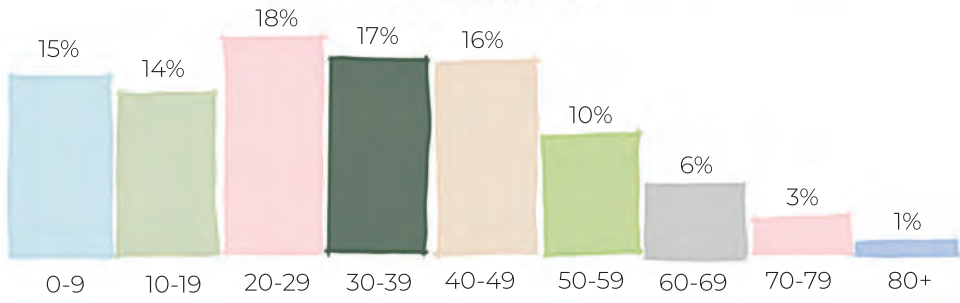
THE COMMUNITY HUB



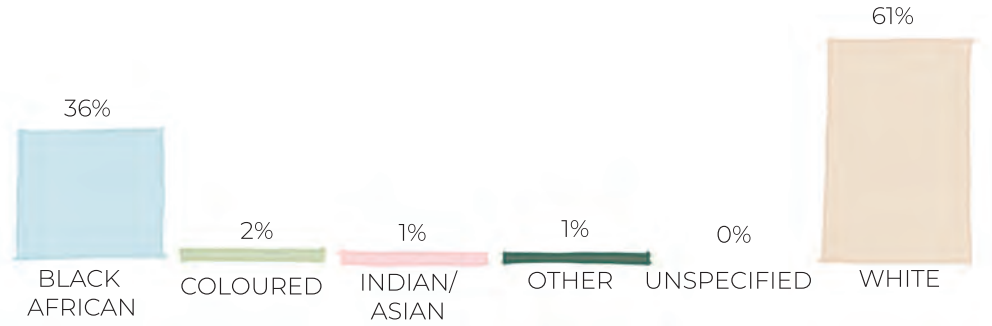


It is very clear that there is a gap in terms of the financial status of the Ward compared to data collected in the Unit for Urban Citizenship fieldwork Study (2023). Melusi faces a large economic divide compared with the rest of the ward. There is thus great potential for growth in Melusi in terms of investment and economic growth. Melusi Informal settlement is situated within Ward 55 in Region 3. The overall financial demographic of the ward performs well. The stats I would like to highlight is the language showcasing that the ward is multi-cultural. The employment status of the ward compared to melusi is very different

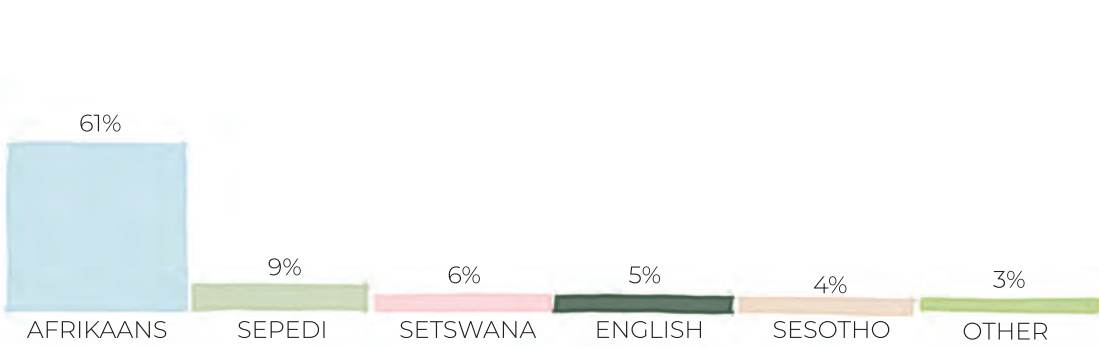
MELUSI WARD



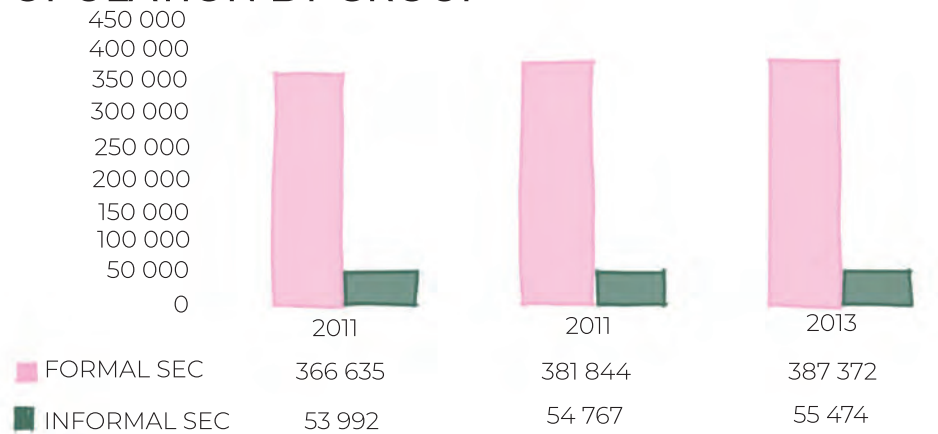
INCOME OF WARD VS MELUSI



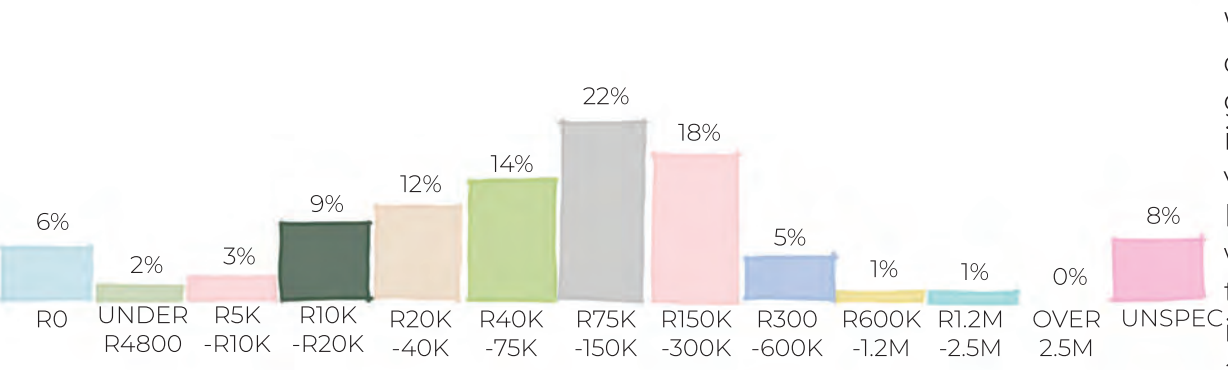
POPULATION BY AGE RANGE



POPULATION BY GROUP



POPULATIONS BY LANGUAGE SPOKEN AT HOME

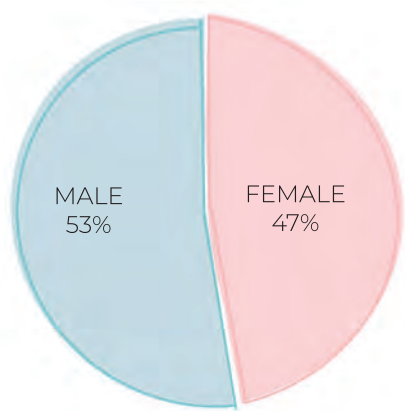


FORMAL & INFORMAL EMPLOYMENT (RDSF 2018)

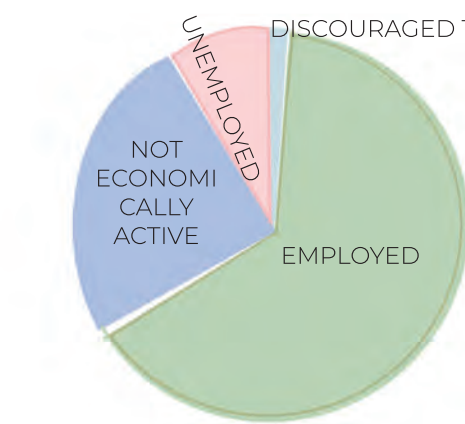
When considering the 2011 census of Krauseville we can conclude that the area is very much split when considering gender (Census 2011 n.d.). The population by group, the area is dominated by black African with an 83 percentile. This is very different to the ward percentile of 36% (Census 2011). Looking at the language, the area is predominantly Sepedi which is a large contrast to the dominance of Afrikaans in the overall Ward 55. When considering age, the area, the age is closer to the statistics of the Ward where the dominant age ranges of 25-29 with a 15.81 percentile.

EMPLOYEES BY ANNUAL INCOME

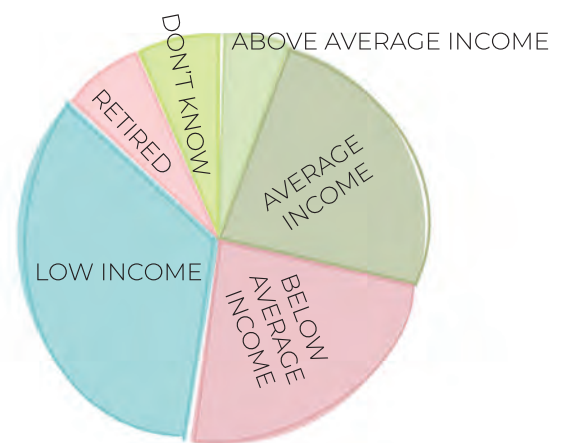
KRAUSEVILLE VS WARD



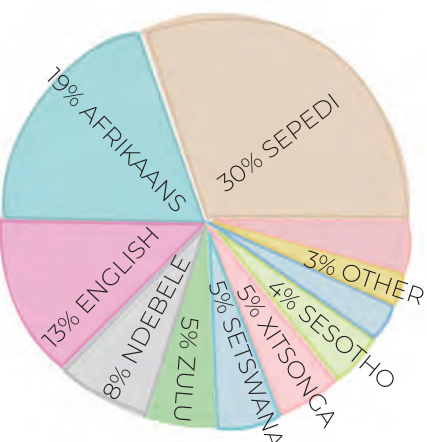
GENDER



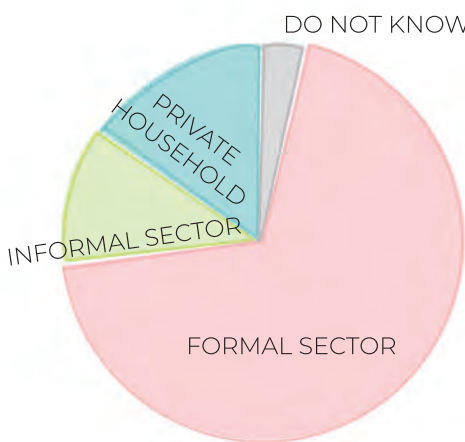
EMPLOYMENT STATUS



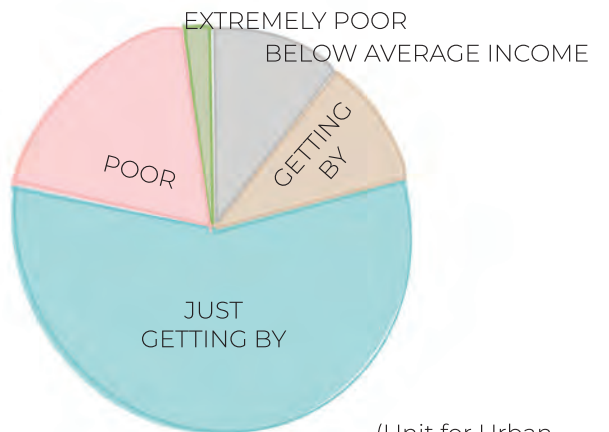
INCOME IN MELUSI



LANGUAGE



SECTOR OF EMPLOYMENT (Wazimap.co.za 2024)



FINANCIAL STATUS IN MELUSI (Unit for Urban Citizenship 2023)

KRAUSEVILLE STATISTICS

ECONOMIC STATISTICS

MELUSI INFORMAL SETTLEMENT

HUMAN TYPOLOGY



PUBLIC INTEREST DESIGN

DESIGN FOR SOCIAL INNOVATION

INTERIOR ARCHITECTURAL SOCIAL COMPACT

The project is based on 3 theoretical pillars namely Public Interest Design (PID), Design for Social Innovation (SI) and the Interior architectural Social Compact



(Anderson 2014).



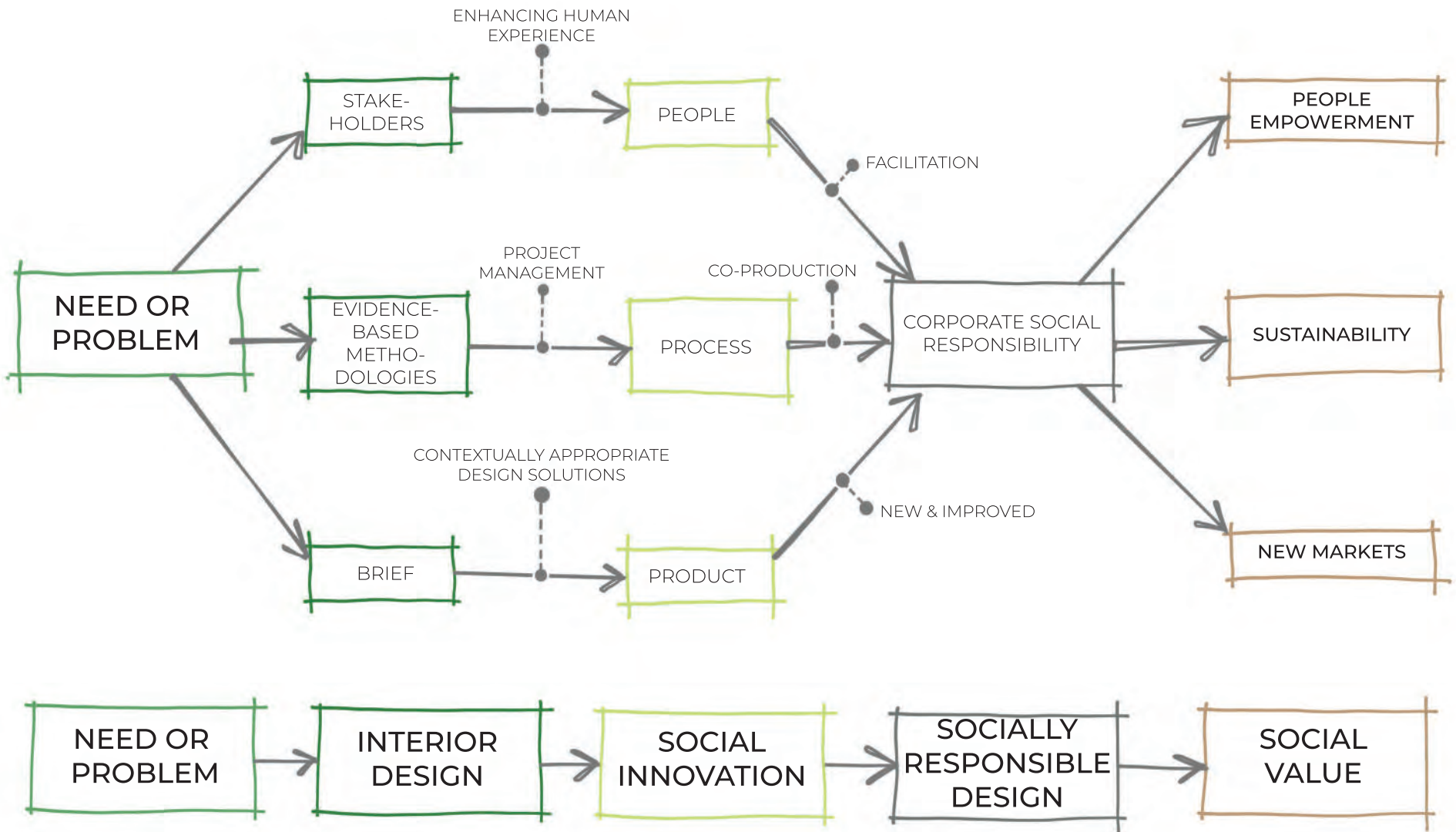
(Ndovela, Olalere & Reynolds 2022).



(Ndovela, Olalere & Reynolds 2022).

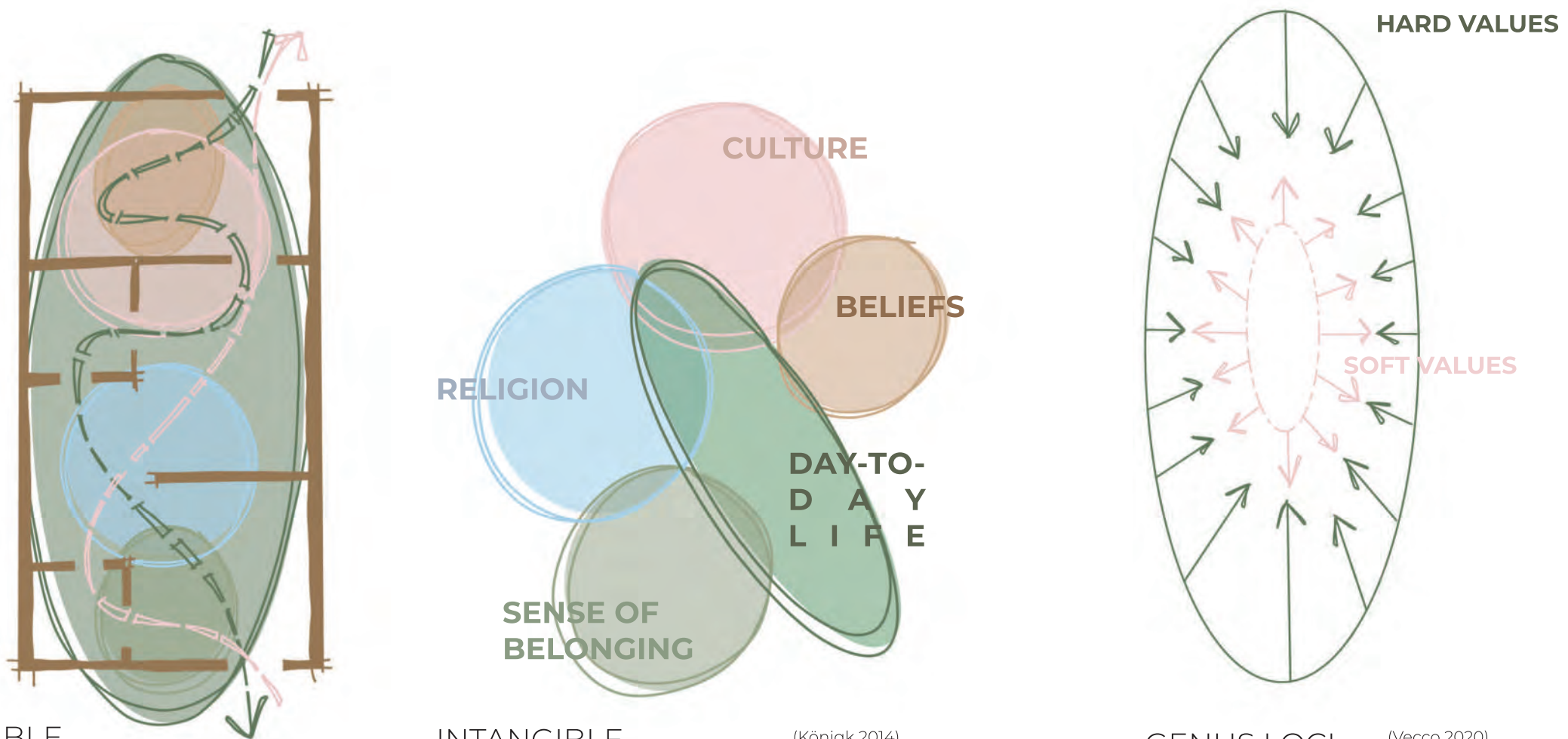
PID, as well as SI, are processes that require trans-disciplinary knowledge and action to make informed decisions that can facilitate informed changes based on action (Anderson 2014). Ndovela, et al. (2022) make mention of Smith (2014), who states that social justice should not just be seen as an act of charity, but should be seen as a way of life, that is part of every individual's fundamental core. It is a belief based on the foundation that every person deserves satisfaction and must be treated with dignity within their day-to-day life (Ndovela, Olalere & Reynolds 2022).

THE THREE PILLARS OF THE RHIZOME



(Ndovela, Olalere & Reynolds 2022).

INT ARCH SOCIAL COMPACT CONCEPTUAL FRAMEWORK



(Königk 2014)

(Vecco 2020)

TANGIBLE

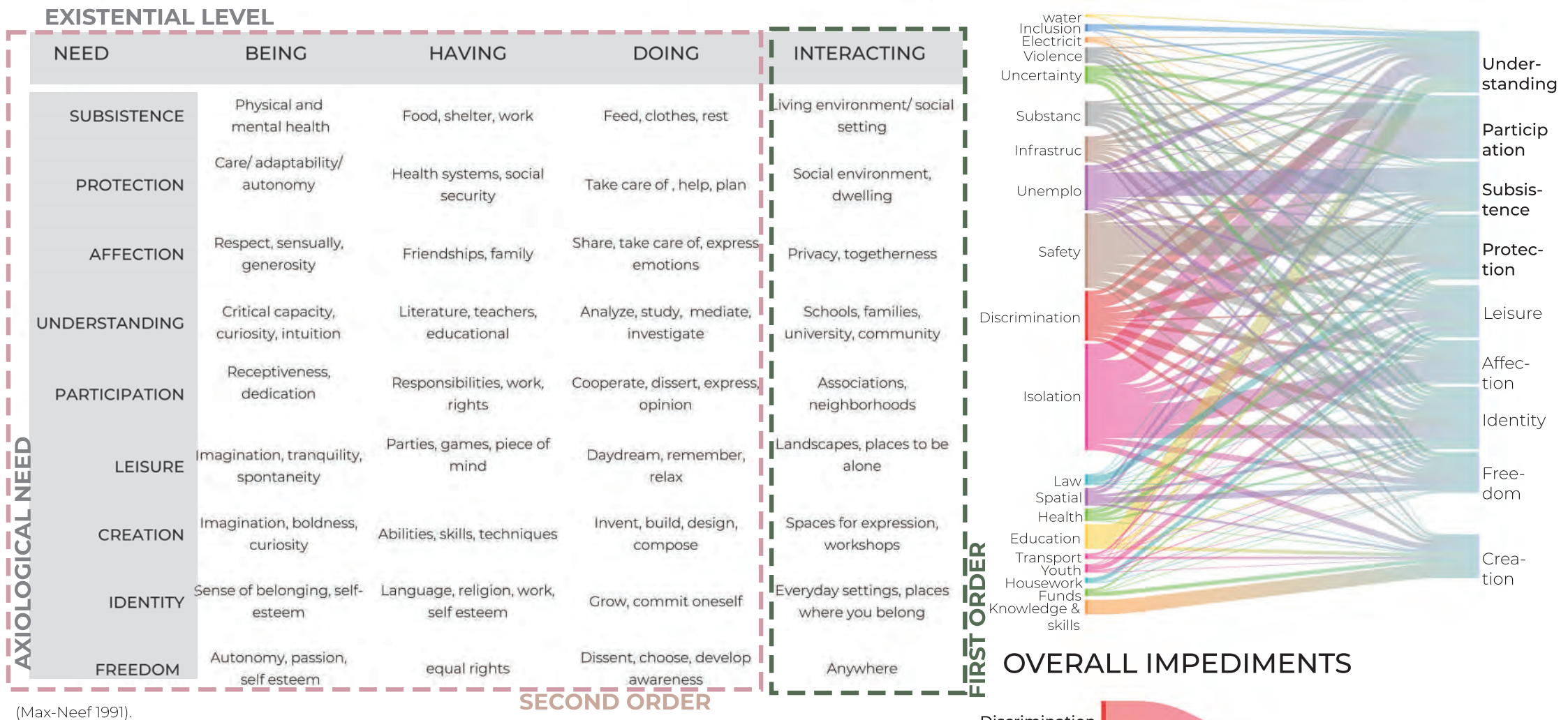
INTANGIBLE

GENUS LOCI

FIRST AND SECOND ORDER MEANING

PUBLIC INTEREST DESIGN & THE INTERIOR ARCHITECTURAL SOCIAL COMPACT





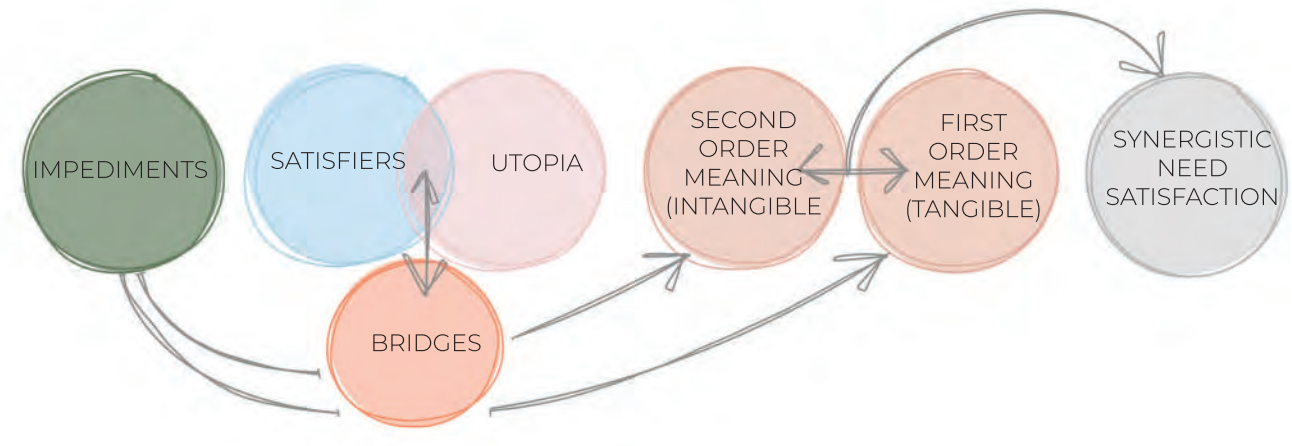
(Max-Neef 1991).

The framework was developed to act as a vehicle to improve the quality of life of people and communities; not only to uplift themselves but also to be sustainable within themselves (Cruz, Stahel & Max-Neef 2009: 2021). The basis of HSD focuses on the satisfaction of fundamental human needs along with the growth of self-reliance within a community (Max-Neef 1991). Max-Neef's (1991) HSD Framework notes a few human needs and can be classified. HSD needs are similar if not the same in all cultures as well as historical paradigms. Yet it does change and evolve along with the development of humanity itself and does so very timely (Max-Neef 1991).

MAX NEEF HSD FRAMEWORK

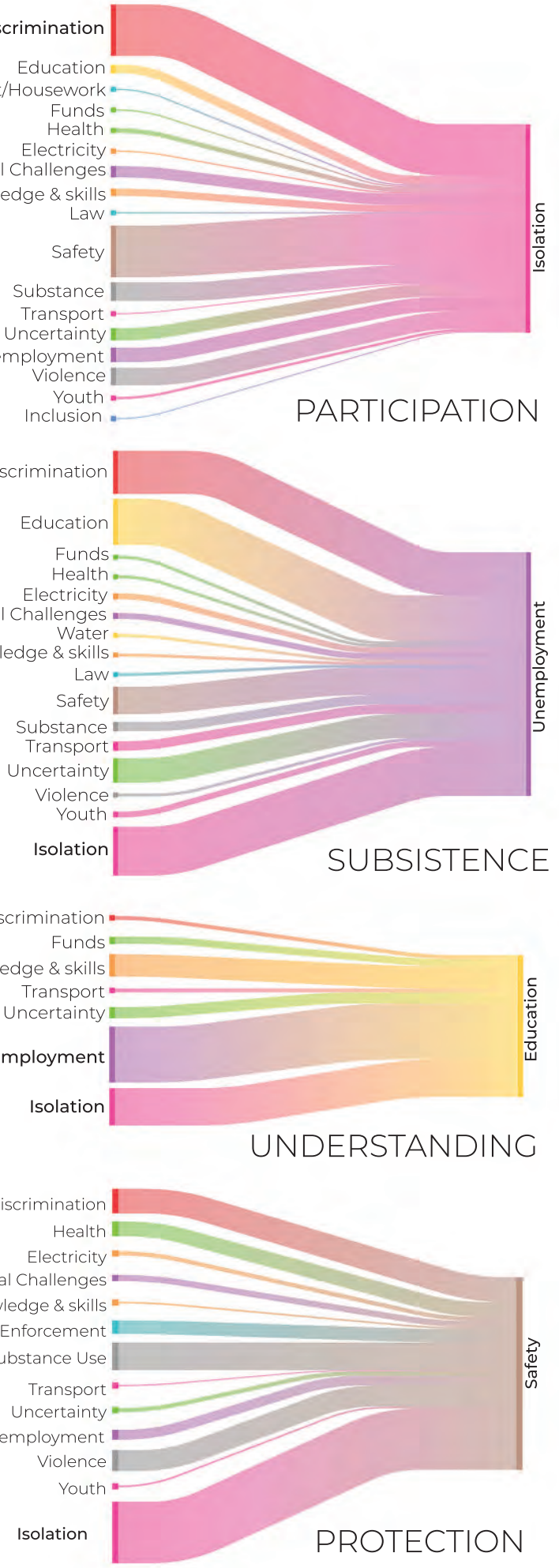


IMPEDIMENTS, SATISFIERS & BRIDGES EXPLAINED



IMPEDIMENTS, SATISFIERS & BRIDGES EXPLAINED

MAX NEEF HUMAN SCALE DEVELOPMENT FRAMEWORK



IMPEDIMENTS CAUSE & EFFECTS



Reason for research

WHY THE GAMES?

"Serious games" are used in this project as a tool to facilitate interaction between those living in Melusi and the project researchers. Each game includes a series of questions to be asked, in order to identify needs, according to Manfred Max-Neef's matrix of fundamental human needs.

THE GAMES

BLOCKS MAKING DRAWING PLAYING MATRIX

THEY HELP US IDENTIFY:

- The Max-Neef needs in Melusi
- Impediments in Melusi
- The utopian state of Melusi
- Ways to bridge the gaps

- Subsistence**
Di lo tse re di thikang! Di lo tse re di nyakang! / tse tse odinganyo! Zwenho zwaunoda
- Protection**
Tshaletsa! / tshaletsa! / Ukuphepha! / Kudzivirra! / Kuchengeleka
- Affection**
Lerato! / Uthando! / Rudo
- Understanding**
Kutisoiso / Kwishiso / Go thaloganya! / Ukuponda / Kunzwisisa
- Participation**
Ho kenya festoha! / Go tsiya karollo! / Hlophisa / tshaba! / Kutora chikamu
- Idleness**
Ho phomola! / Go e khutsa! / Ukuphumula! / Kuzorora
- Creation**
Bokgoni! / Indatso! / Kusikwa
- Identity**
Boitsebiso! / Bo wena! / Utshukiso!
- Freedom**
Tokologo! / Tokoloho! / Tshukumo! / Rusumunguko

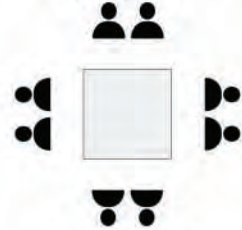


GAME REQUIREMENTS

- 6-8 Players
- A dice & moving pieces
- Markers & paper

Step 1

Form groups of 2 with available players



Step 2

Roll the dice to determine how many space a team will move on the game board



GAME RULES

Step 3

Answer the question(s) depending on where you land



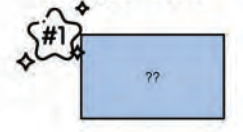
Step 4

Rotate the dice until a team reaches the end of the game



Step 5

At the end of the game, players must each rank the question they thought was most important



BOARD GAME INFOGRAPHIC

Subsistence(B) In an ideal world, what things would you need to survive in your community?	Subsistence(H) What do you think the most important things are for your community to survive?	Protection(B) You have been living in this area for some time, what are the things that you think are most important to you in this area?	Protection(H) What do you think the most important things are for your community to be safe?	Affection(B) Could you describe your feelings about the way of living in terms of respect and dignity?	Affection(H) What do you think the most important things are for your community to be happy?
Subsistence(D) What do you think the most important things are for your community to survive?	Subsistence(I) What do you think the most important things are for your community to survive?	Protection(D) What do you think the most important things are for your community to be safe?	Protection(I) What do you think the most important things are for your community to be safe?	Affection(D) What do you think the most important things are for your community to be happy?	Affection(I) What do you think the most important things are for your community to be happy?
Understanding(B) As a resident of this area, could you describe the way of living in terms of respect and dignity?	Understanding(H) What do you think the most important things are for your community to be happy?	Participation(B) What do you think the most important things are for your community to be happy?	Participation(H) What do you think the most important things are for your community to be happy?	Idleness(B) What do you think the most important things are for your community to be happy?	Idleness(H) What do you think the most important things are for your community to be happy?
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Creation(B) How do you think the most important things are for your community to be happy?	Creation(H) How do you think the most important things are for your community to be happy?	Identity(B) How do you think the most important things are for your community to be happy?	Identity(H) How do you think the most important things are for your community to be happy?	Freedom(B) How do you think the most important things are for your community to be happy?	Freedom(H) How do you think the most important things are for your community to be happy?
Creation(D) How do you think the most important things are for your community to be happy?	Creation(I) How do you think the most important things are for your community to be happy?	Identity(D) How do you think the most important things are for your community to be happy?	Identity(I) How do you think the most important things are for your community to be happy?	Freedom(D) How do you think the most important things are for your community to be happy?	Freedom(I) How do you think the most important things are for your community to be happy?

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SATISFIERS

IMPEDIMENTS

UTOPIA

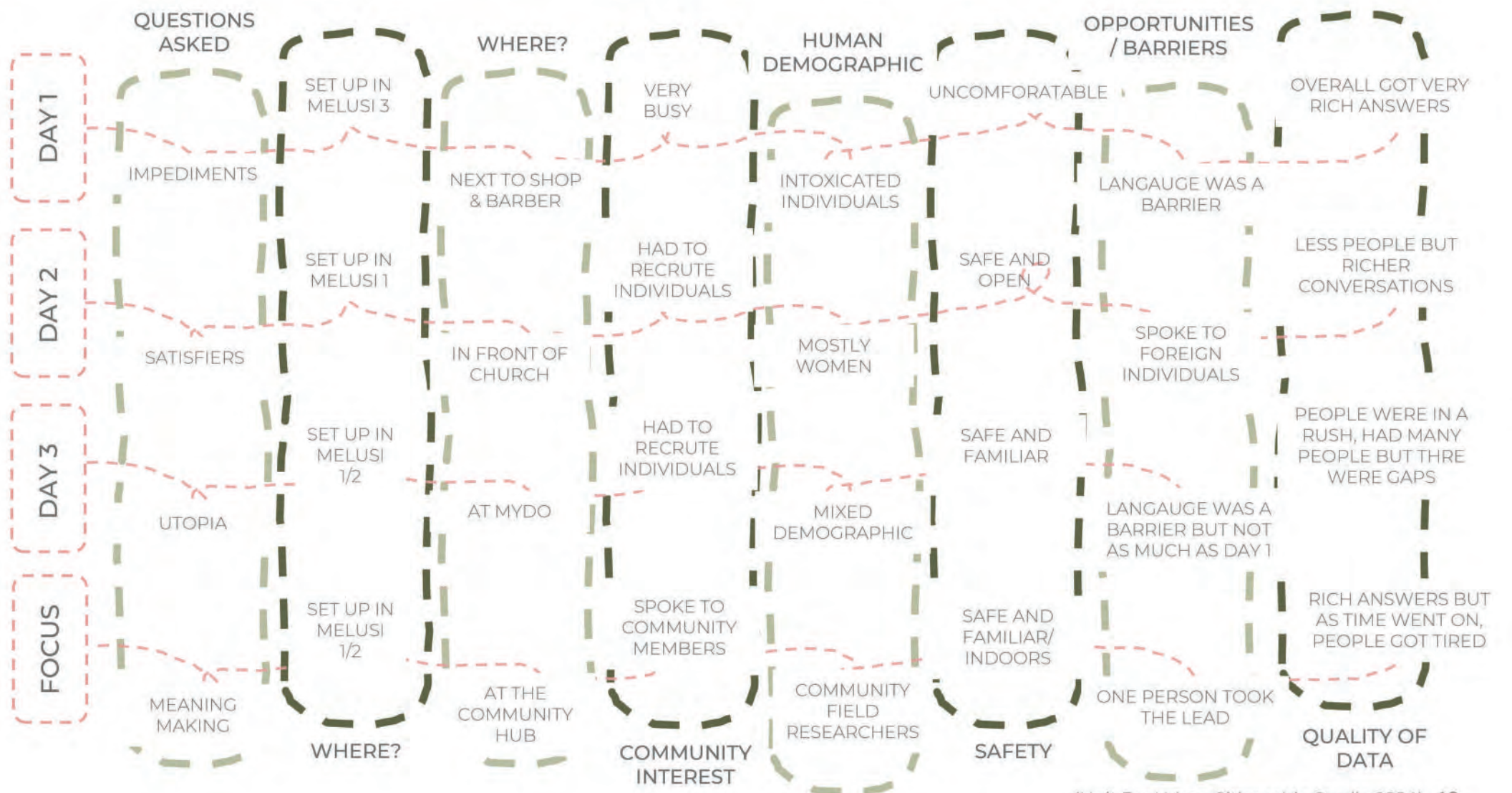


PICTURES OF PARTICIPANTS PLAYING GAME FIELDWORK STUDIES





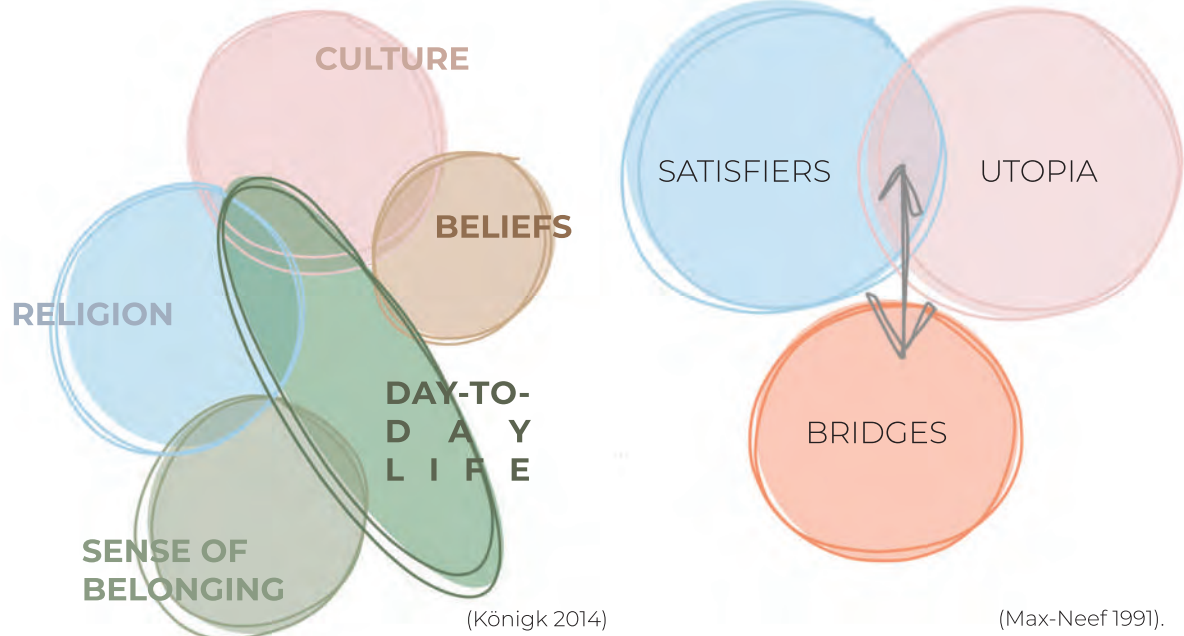
DATA COLLECTION TIMELINE



REFLECTION

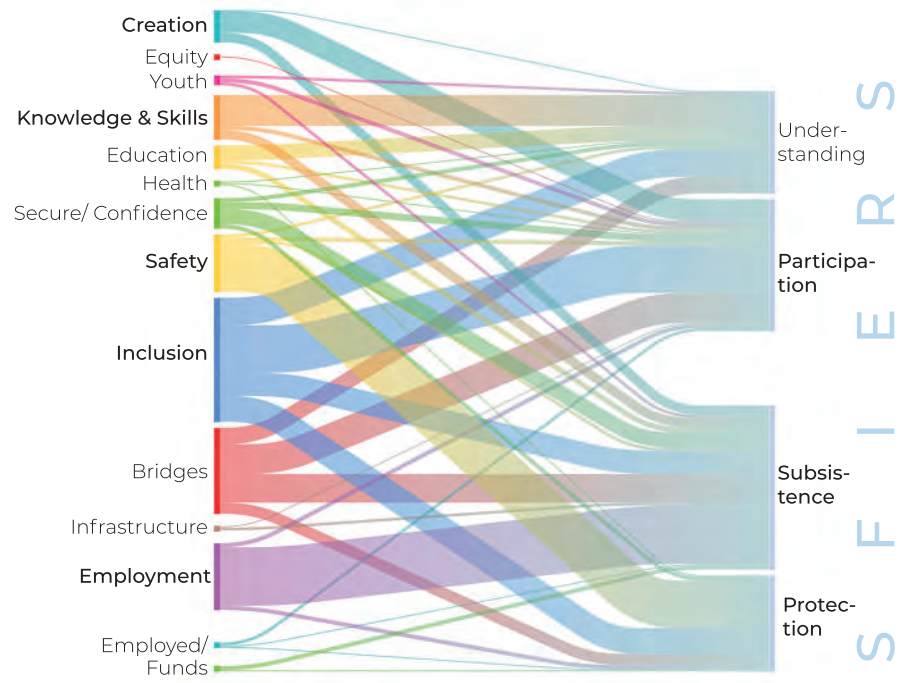
FIELDWORK STUDIES



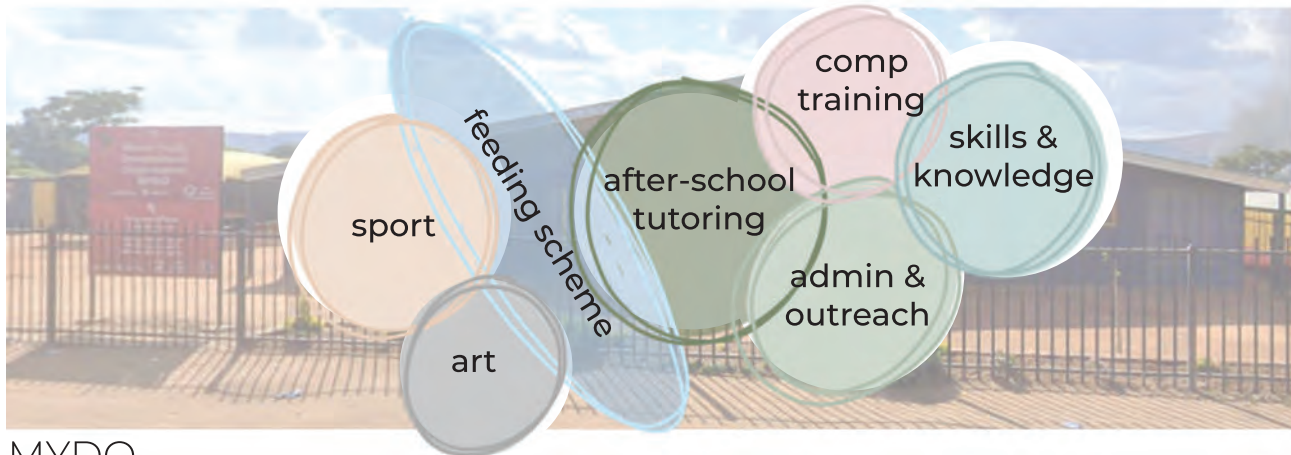


SECOND ORDER MEANING

BRIDGES



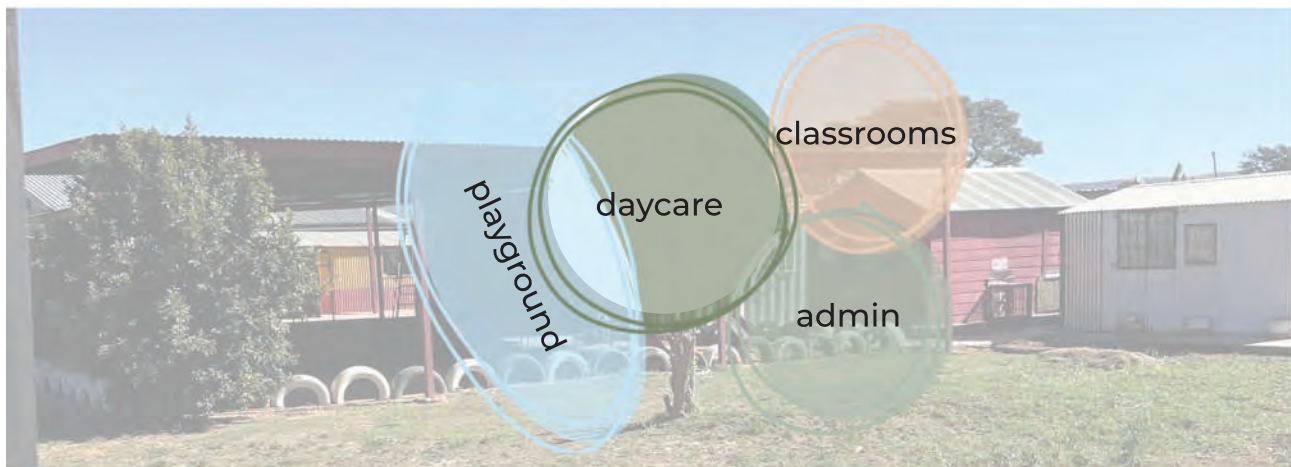
MAIN FOCUS



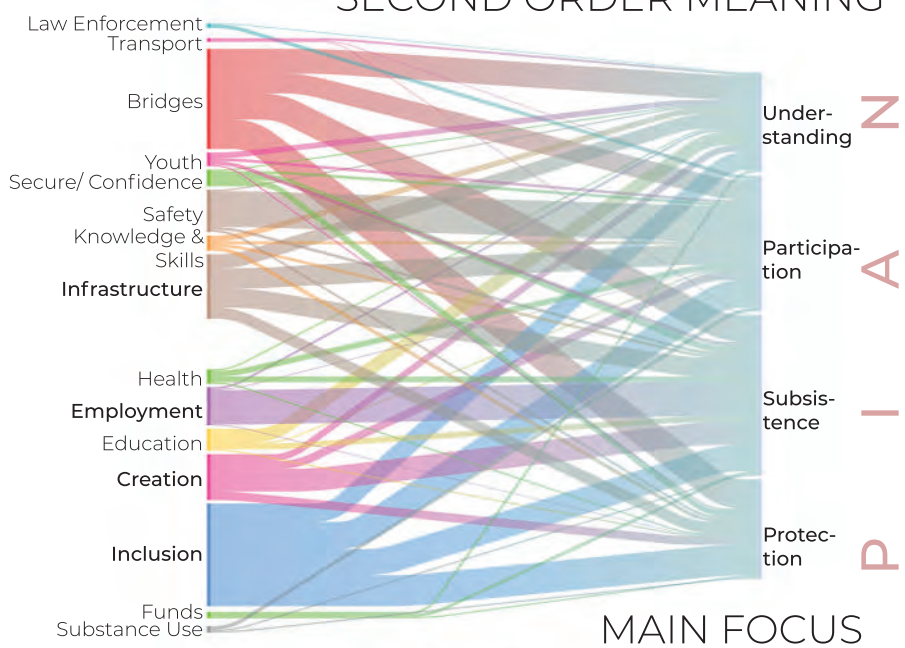
MYDO



SECOND ORDER MEANING



CRECHE

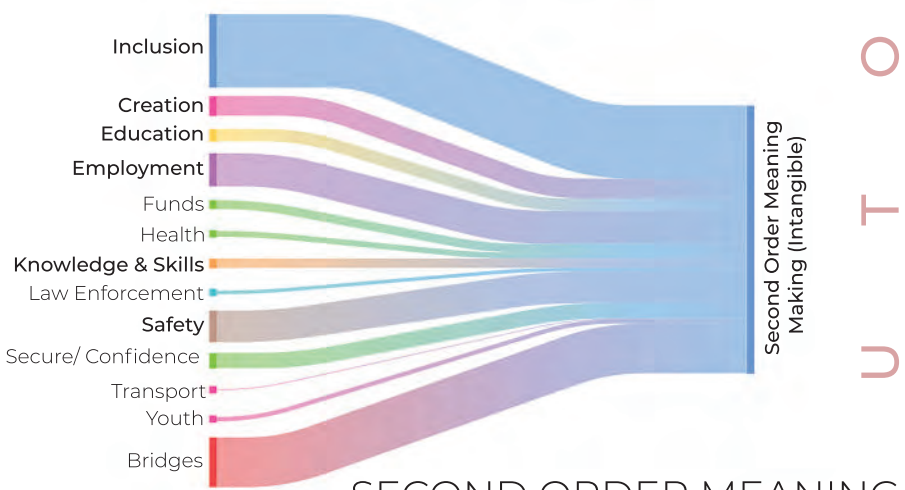


MAIN FOCUS



COMMUNITY HUB

NODE EXISTING INTANGIBLE



SECOND ORDER MEANING

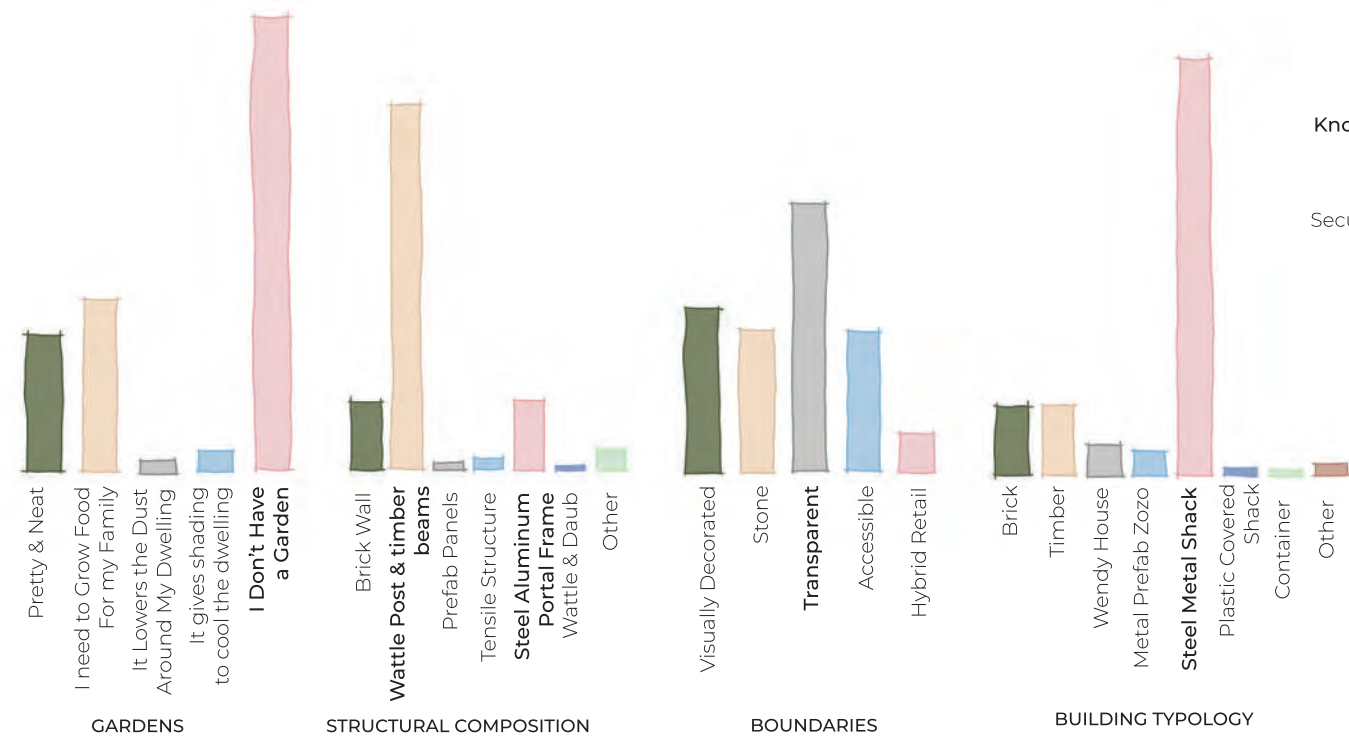


SATISFIERS

UTOPIAN REQUESTS

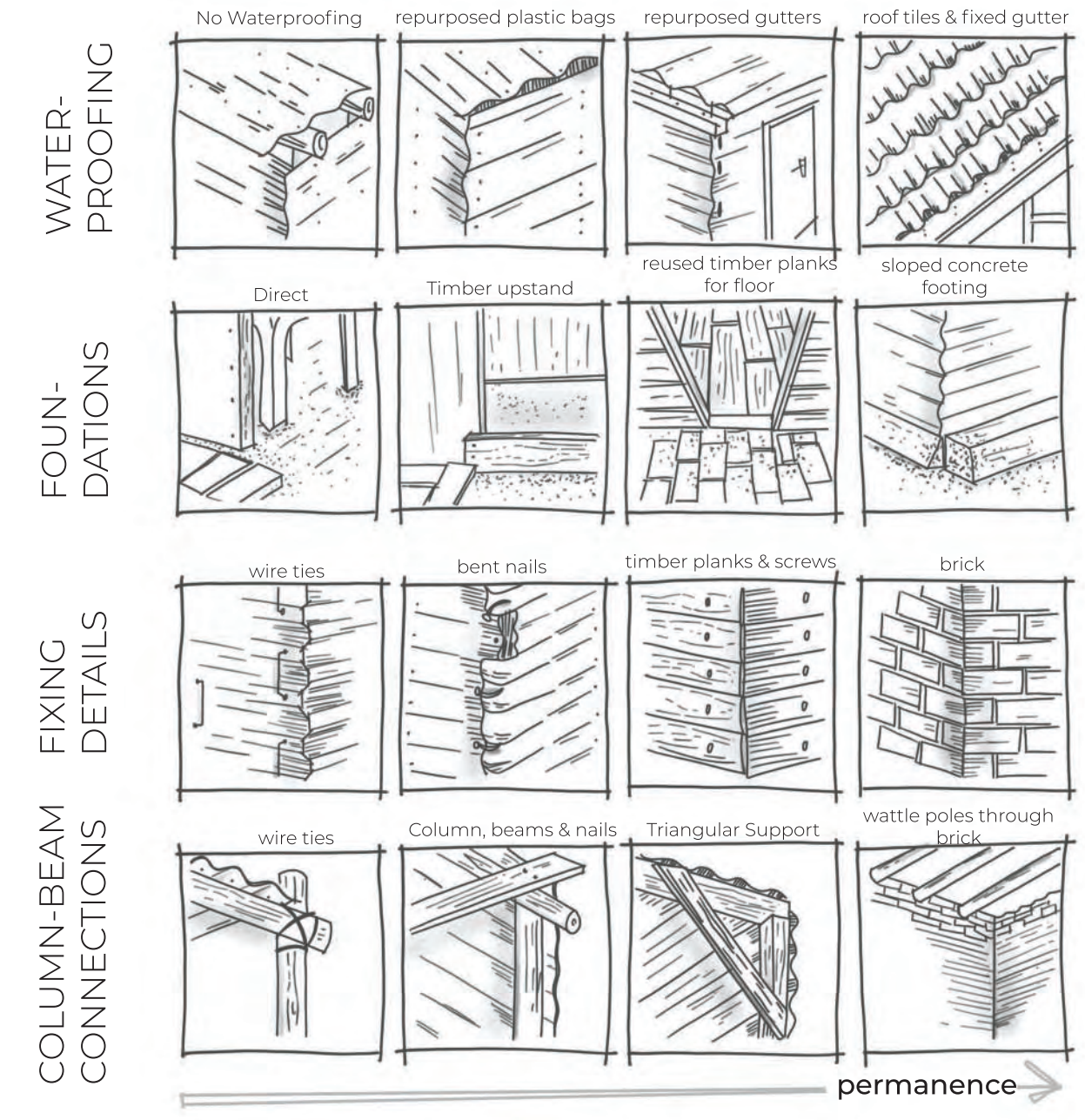
SECOND ORDER MEANING (INTANGIBLE)





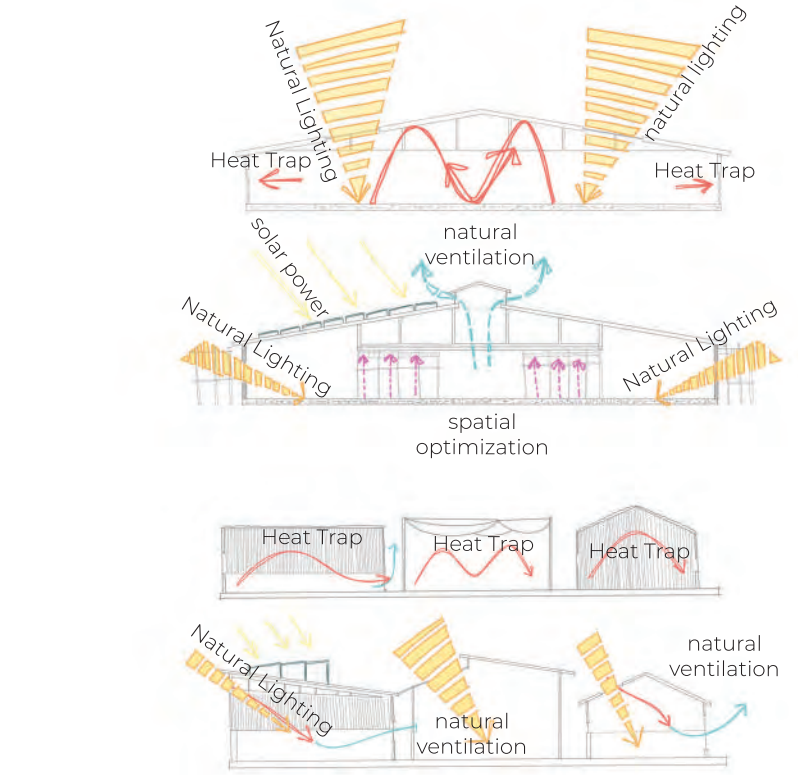
BUILDING TYPOLOGIES IN MELUSI

(Basson 2024 Adapted From Unit for Urban Citizenship 2023)

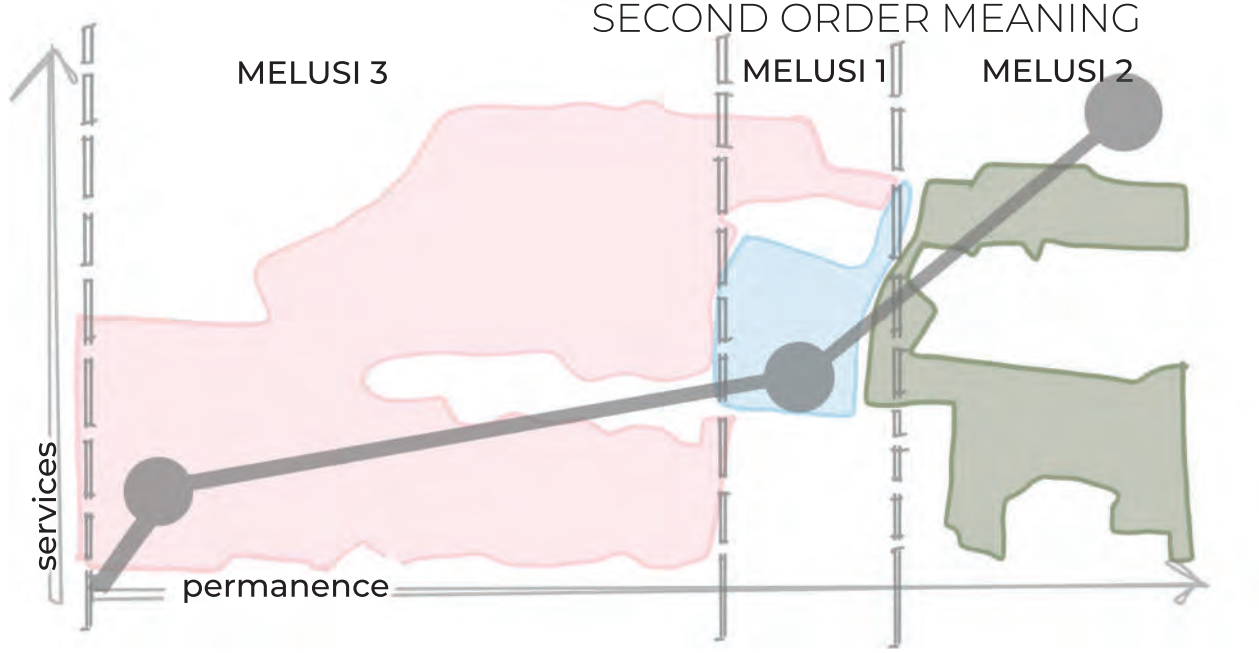
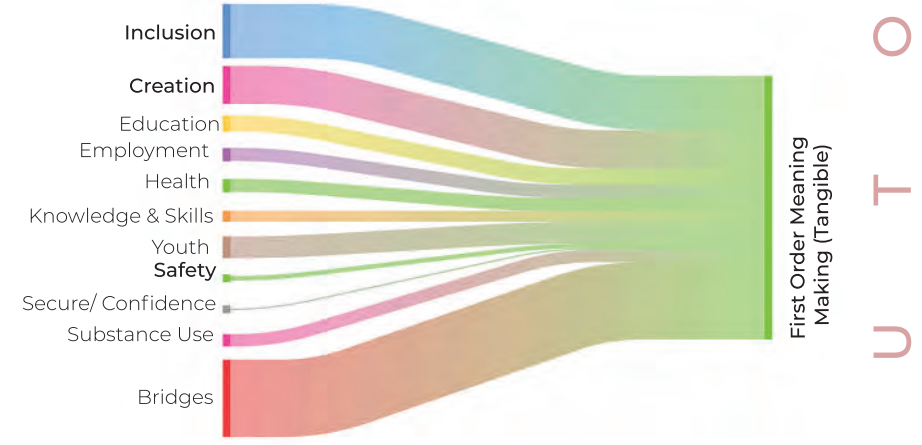
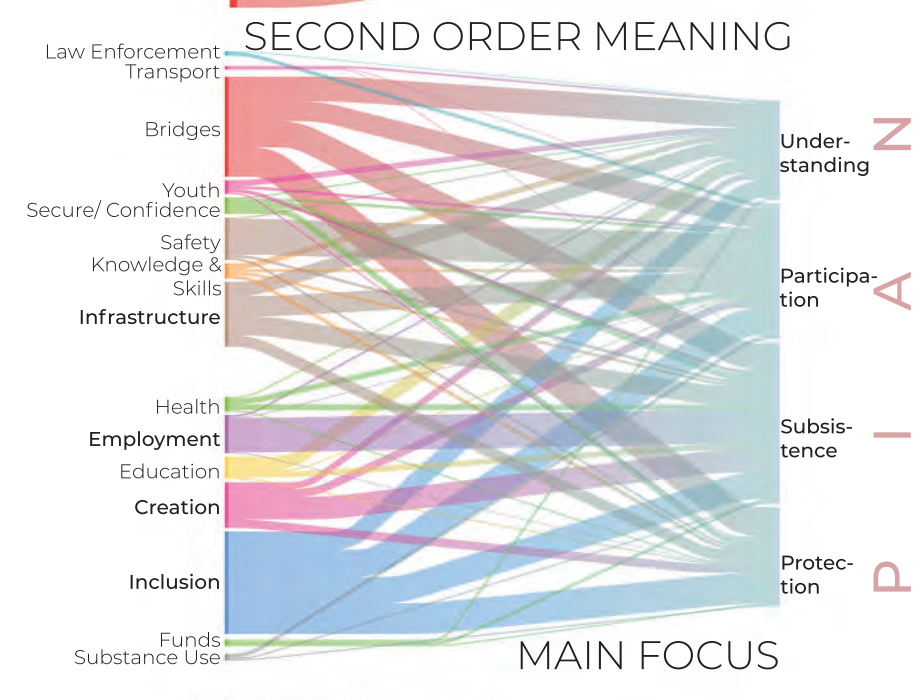
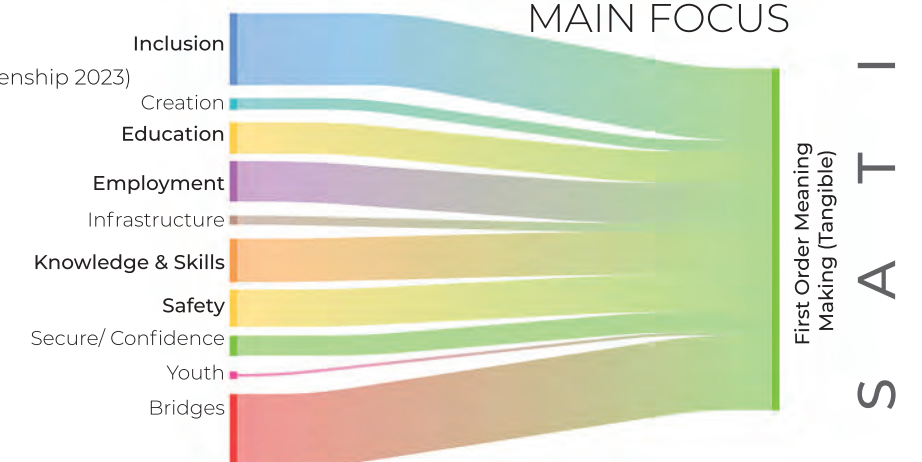
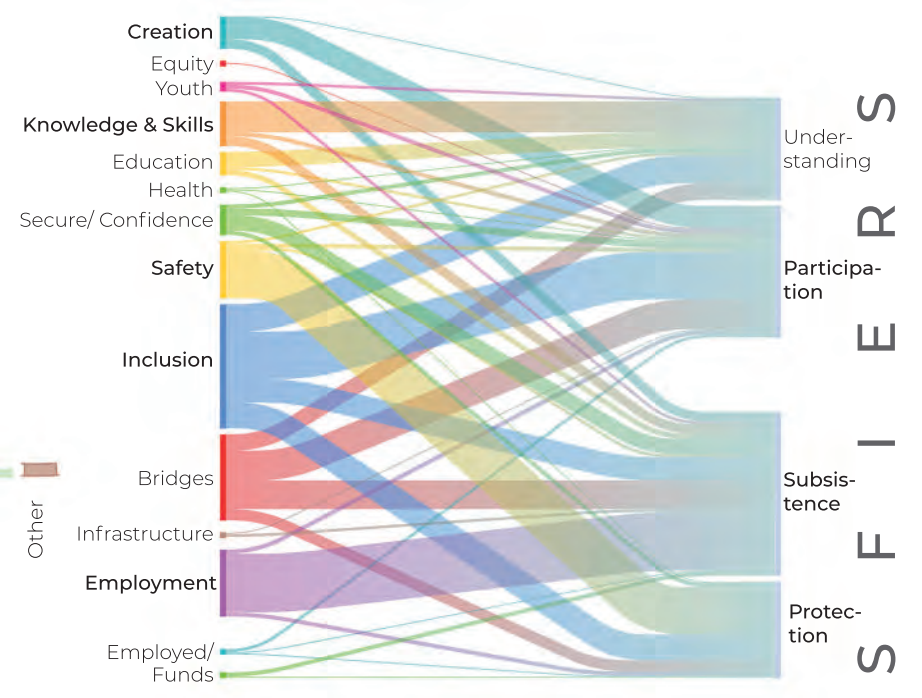


CONNECTION DETAILS IN MELUSI

(Basson 2024 Adapted From Unit for Urban Citizenship 2023)



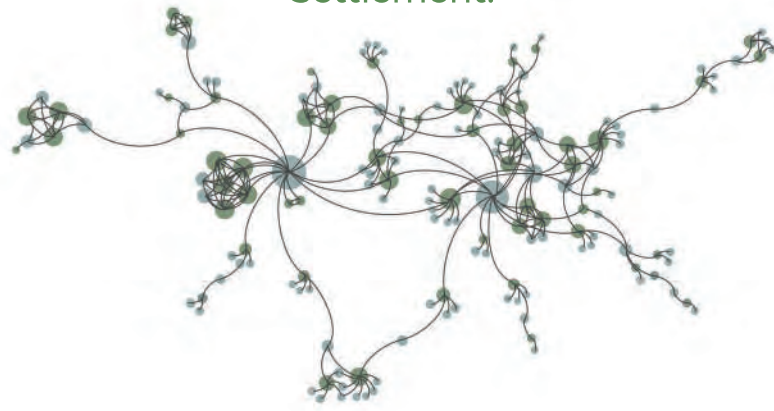
FIRST ORDER MEANING (TANGIBLE)



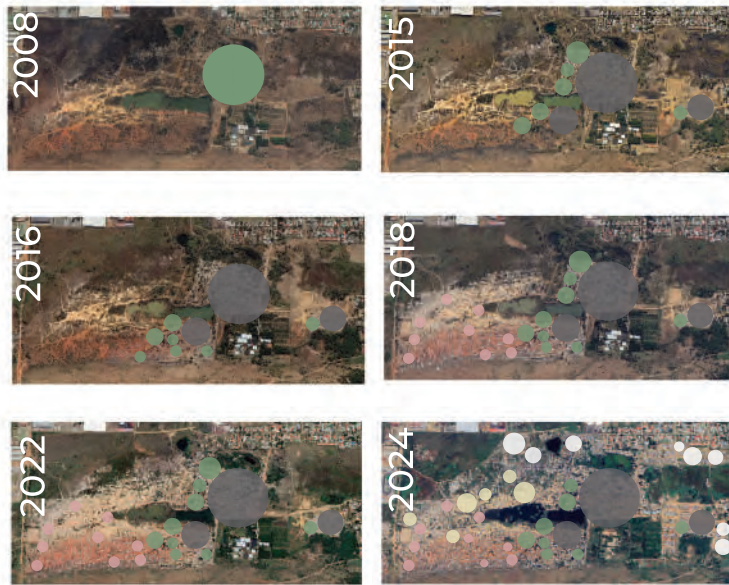
PERMANENCE IN MELUSI

THE CULINARY RHIZOME

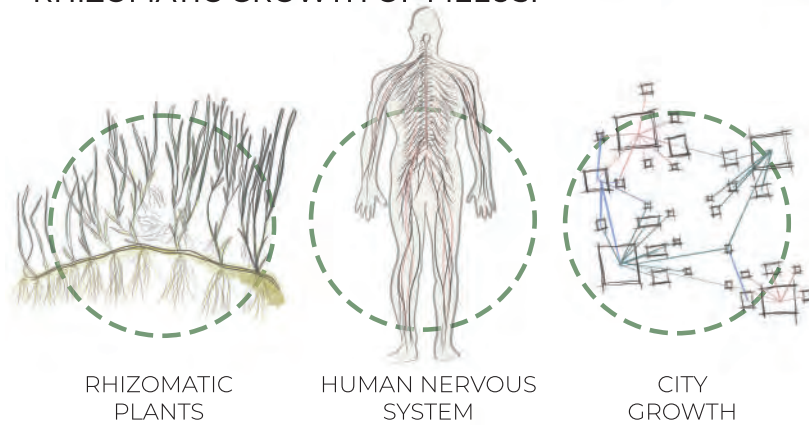
Fostering Community Growth, Economic Growth, Community Inclusion and Skills Development within Melusi Informal Settlement.



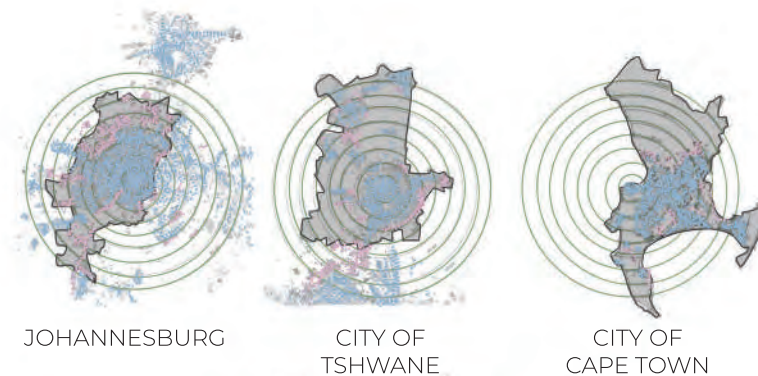
Rather than a linear development or progression, a rhizomatic text is composed of multiple points of entry. A rhizome is a lateral, decentered, proliferating, and interconnected web of relations and is therefore unlike the hierarchical (root, branch, offshoots) model of a tree.



RHIZOMATIC GROWTH OF MELUSI



MAIN FOCUS OF RHIZOMATIC GROWTH

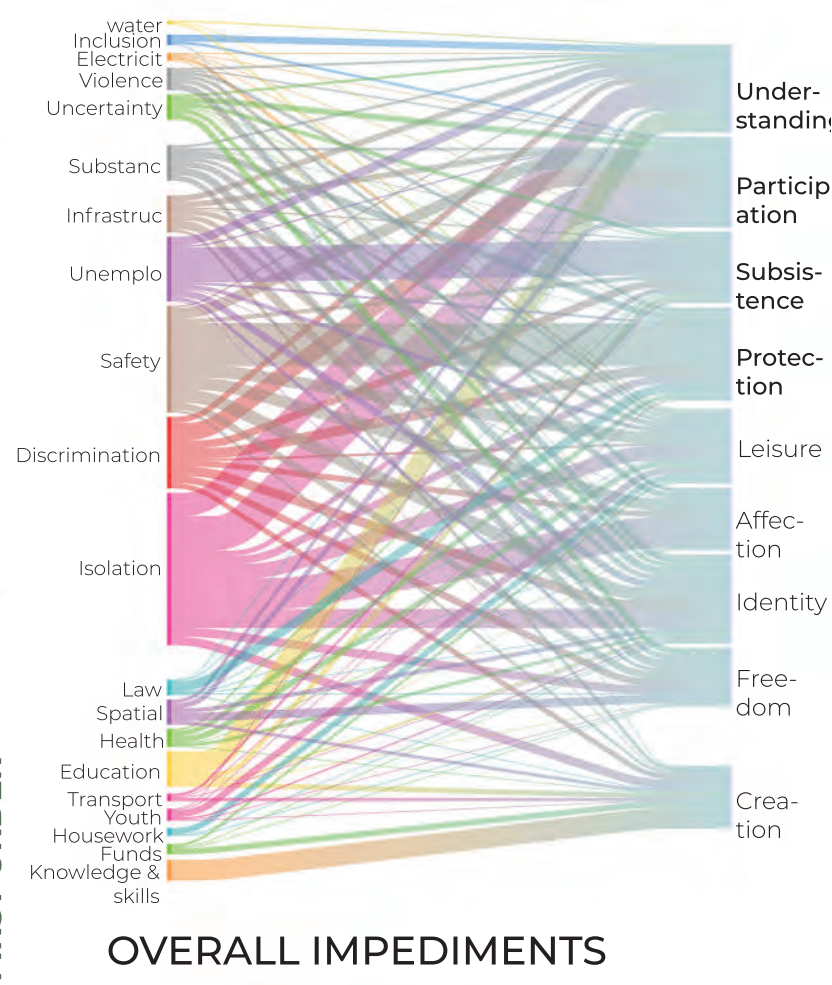


RHIZOMATIC GROWTH OF CITIES

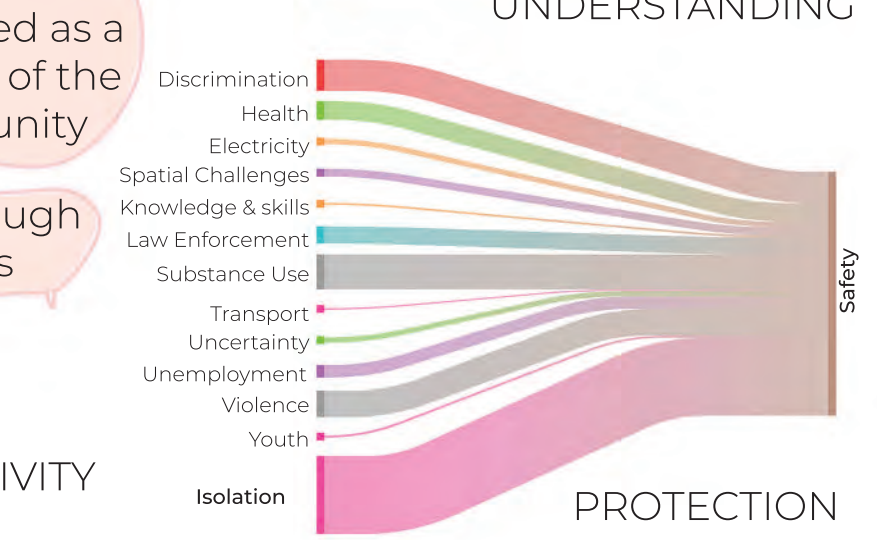
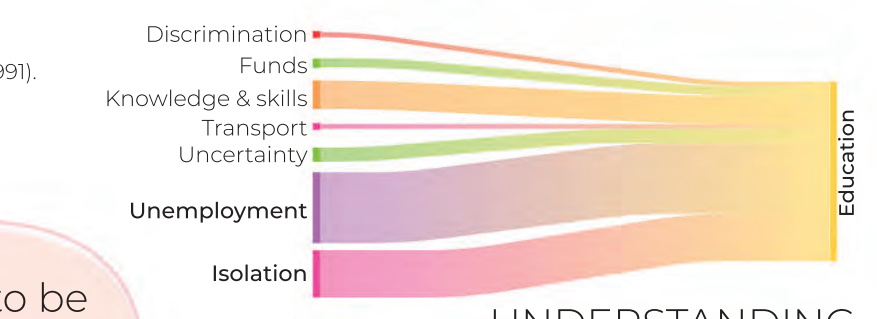
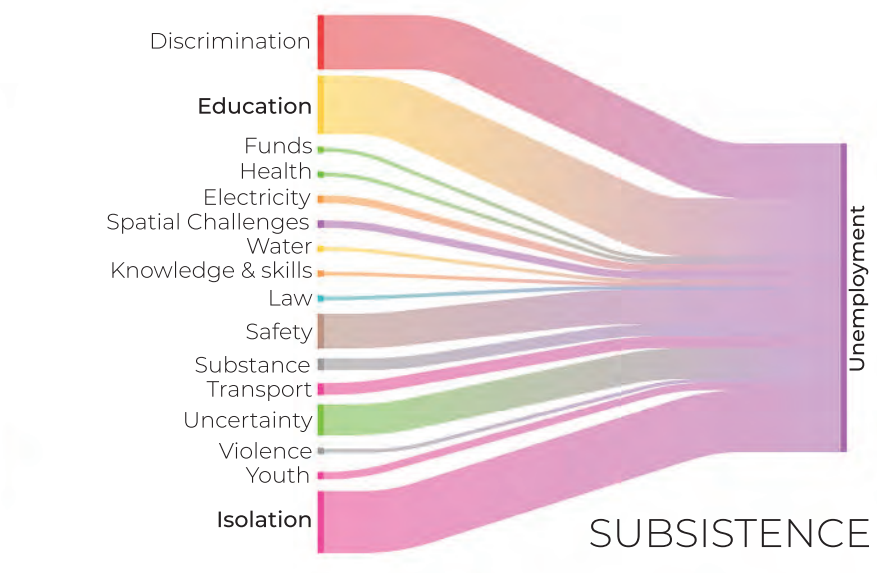
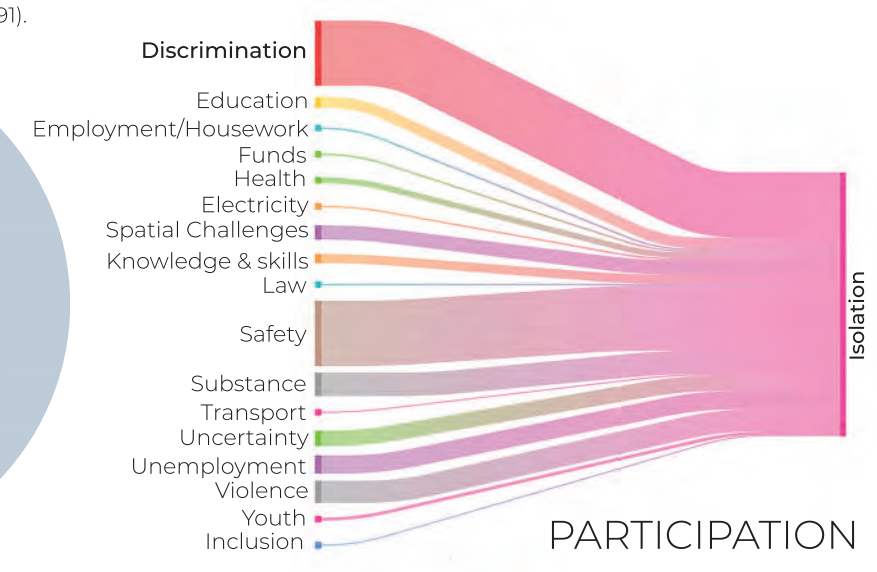
CONCEPTUAL APPROACH



NEED	BEING	HAVING	DOING	INTERACTING
SUBSISTENCE	Physical and mental health	Food, shelter, work	Feed, clothes, rest	Living environment/ social setting
PROTECTION	Care/ adaptability/ autonomy	Health systems, social security	Take care of, help, plan	Social environment, dwelling
AFFECTION	Respect, sensually, generosity	Friendships, family	Share, take care of, express emotions	Privacy, togetherness
UNDERSTANDING	Critical capacity, curiosity, intuition	Literature, teachers, educational	Analyze, study, mediate, investigate	Schools, families, university, community
PARTICIPATION	Receptiveness, dedication	Responsibilities, work, rights	Cooperate, dissent, express, opinion	Associations, neighborhoods
LEISURE	Imagination, tranquility, spontaneity	Parties, games, piece of mind	Daydream, remember, relax	Landscapes, places to be alone
CREATION	Imagination, boldness, curiosity	Abilities, skills, techniques	Invent, build, design, compose	Spaces for expression, workshops
IDENTITY	Sense of belonging, self-esteem	Language, religion, work, self esteem	Grow, commit oneself	Everyday settings, places where you belong
FREEDOM	Autonomy, passion, self esteem	equal rights	Dissent, choose, develop awareness	Anywhere



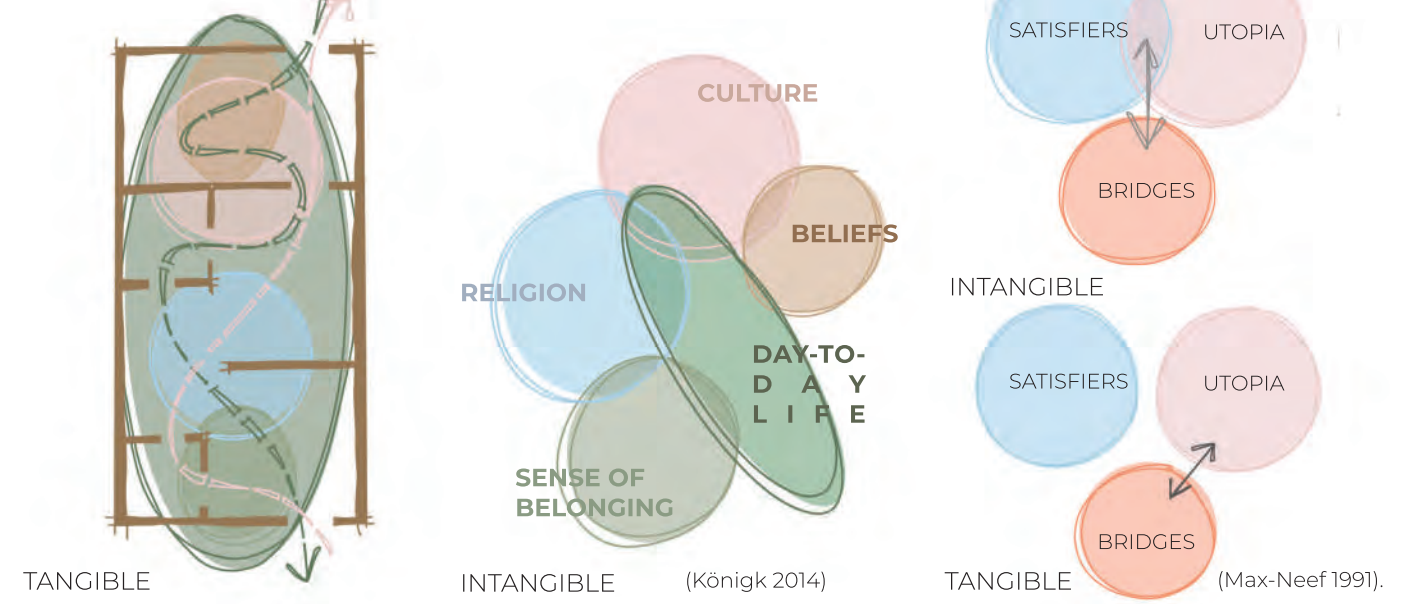
OVERALL IMPEDIMENTS



OVERALL IMPEDIMENTS (THREATS)

NEED SATISFACTION IS SIGNIFICANTLY IMPEDED WITHIN MELUSI INFORMAL SETTLEMENT BECAUSE OF THE TANGIBLES. THE TANGIBLE WITHIN MELUSI INFORMAL SETTLEMENT DOES NOT SUPPORT THE RICH INTANGIBLE PROGRAMMES PRESENT WITHIN MELUSI. THROUGH UTILIZING THE INTERIOR ARCHITECTURAL SOCIAL COMPACT, IT IS IMPERATIVE TO INITIATE TRANSFUNCTIONALISATION OF THE FIRST AND SECOND ORDER MEANING TO ALLOW FOR SYNERGISTIC NEED SATISFACTION.

PROBLEM STATEMENT



FIRST & SECOND ORDER MEANING BRIDGES
FIRST ORDER & SECOND ORDER MEANING IN MELUSI



MATRIX GARDENS EMPLOYMENT GROWTH INCLUSIVITY
MAIN IDENTIFIED PROBLEMS

GAP IDENTIFIED & PROBLEM STATEMENT



HOW CAN AN INTERIOR ARCHITECTURAL INTERVENTION ACTING AS A RHIZOME, FOSTER INTERCONNECTED GROWTH WITHIN MELUSI INFORMAL SETTLEMENT?

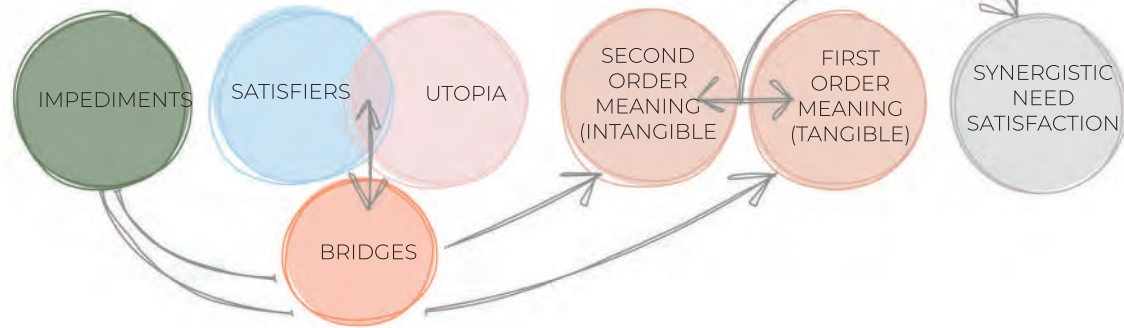
DESIGN QUESTION

HOW CAN A RHIZOMATIC ARCHITECTURAL INTERVENTION FACILITATE MEANING MAKING AND AGENCY WITHIN MELUSI?

HOW CAN A RHIZOMATIC ARCHITECTURAL INTERVENTION LEAD TO COMMUNITY GROWTH AND INDEPENDENCE?

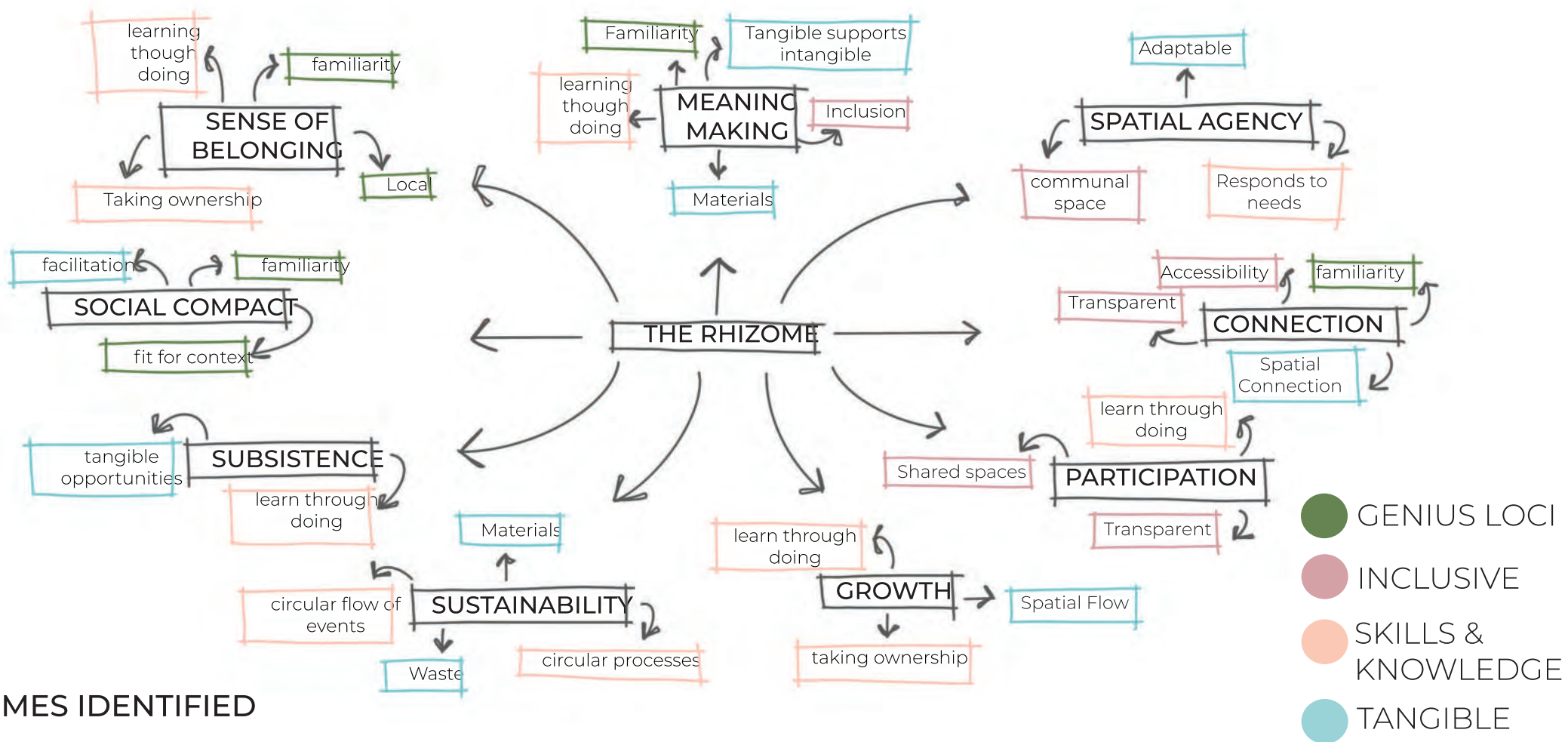
HOW CAN A RHIZOMATIC ARCHITECTURAL INTERVENTION FOSTER A SENSE OF BELONGING?

SUB-QUESTIONS

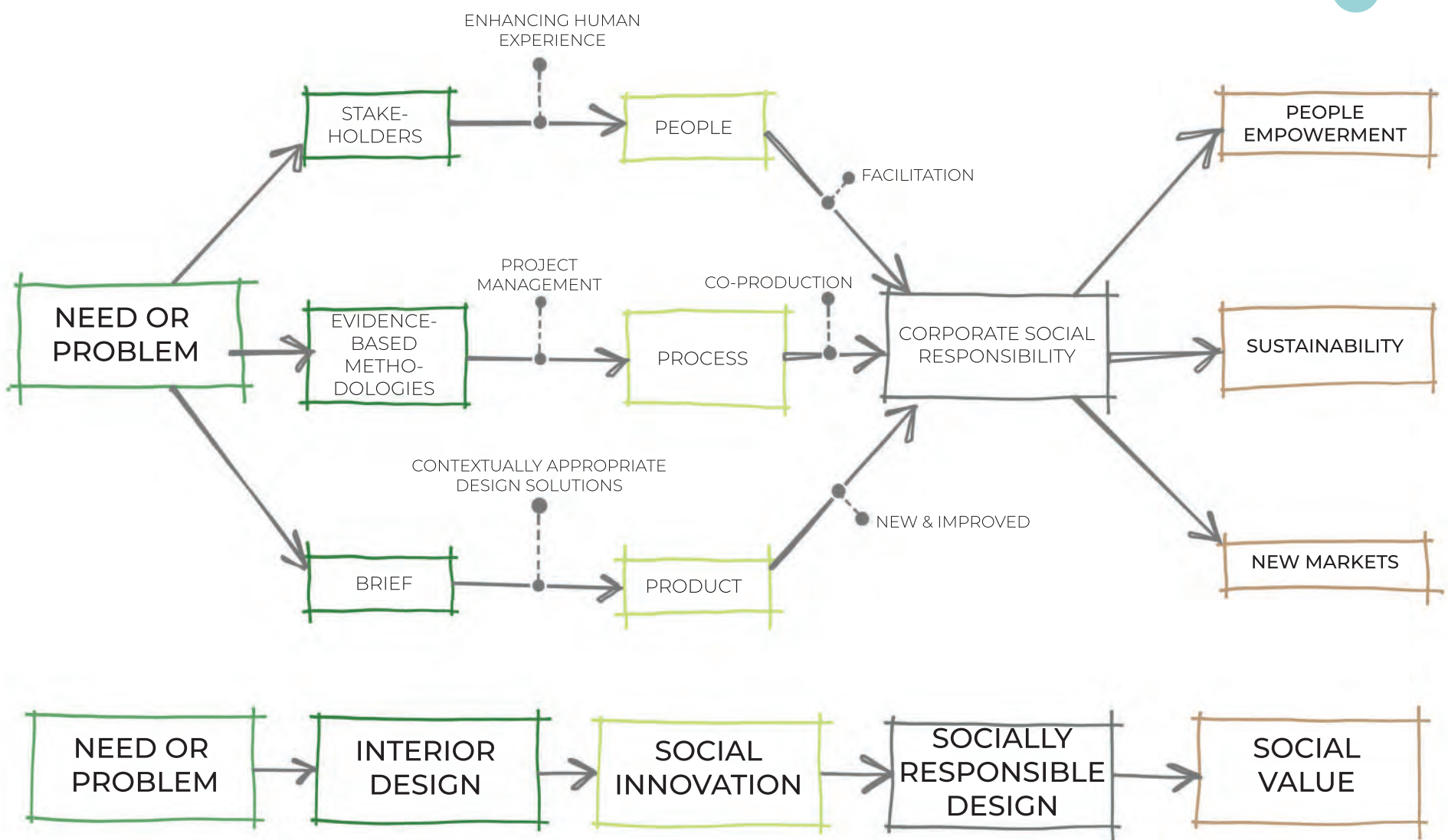


To create sustainability in terms of social and cultural populations (Ndovela, Olalere & Reynolds 2022) one must understand the context. Within this context, the intangible programmes are very rich. The bridge within the intangible is merely introducing more of the existing programmes. The intangible bridge of creation and inclusion can be implemented by introducing more facilities that are dynamic to cater for multiple programmes.

MAX-NEEF HSD MATRIX



THEMES IDENTIFIED



INTERIOR ARCHITECTURAL SOCIAL COMPACT

(Ndovela, Olalere & Reynolds 2022).

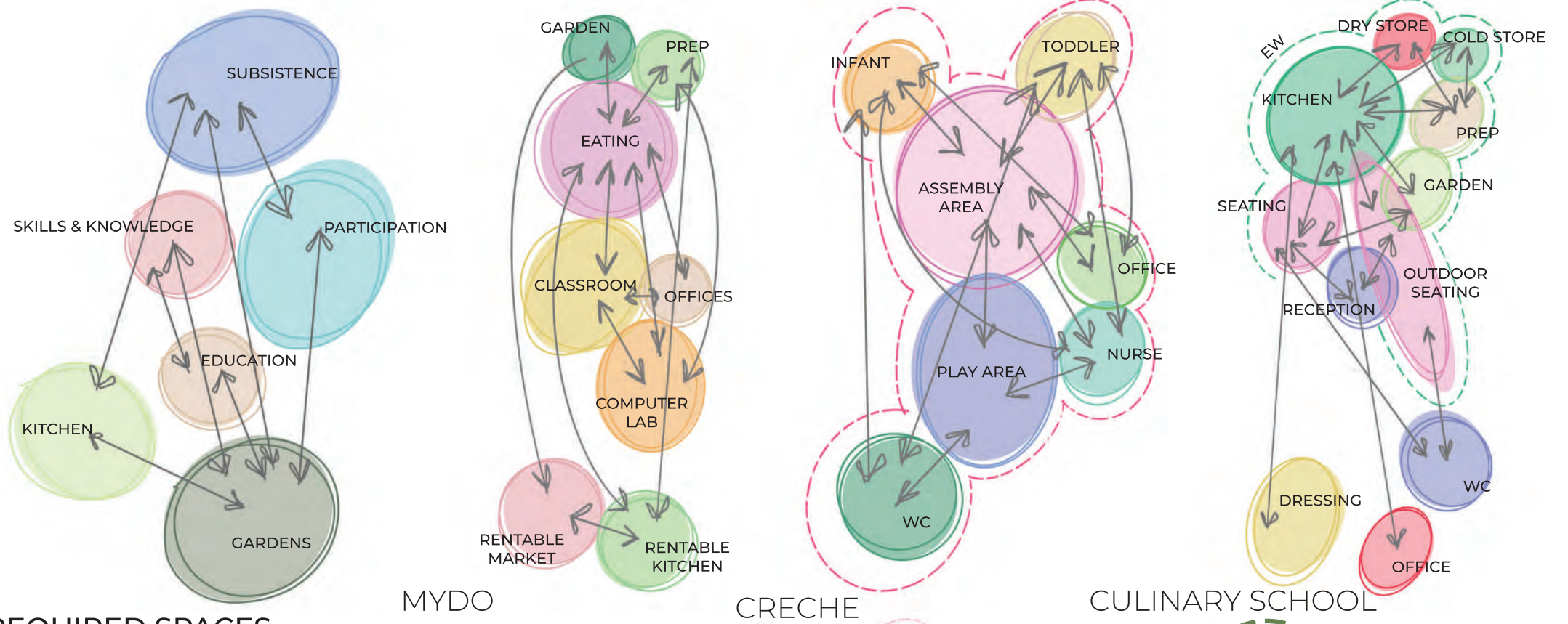
DESIGN QUESTION & PRINCIPALS



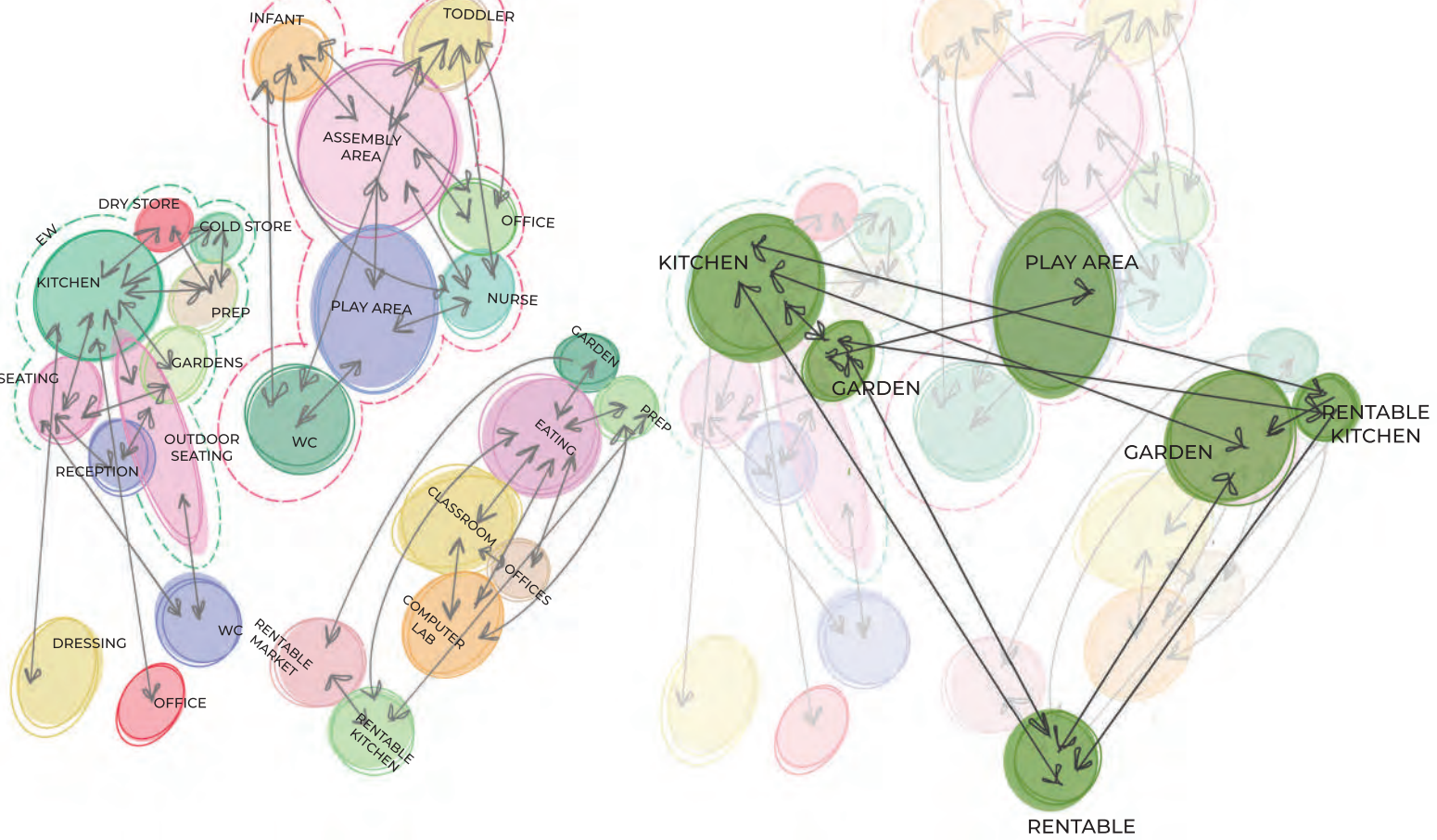
COMMUNITY PARTICIPATION



NEW INTRODUCED PROGRAMMES



REQUIRED SPACES

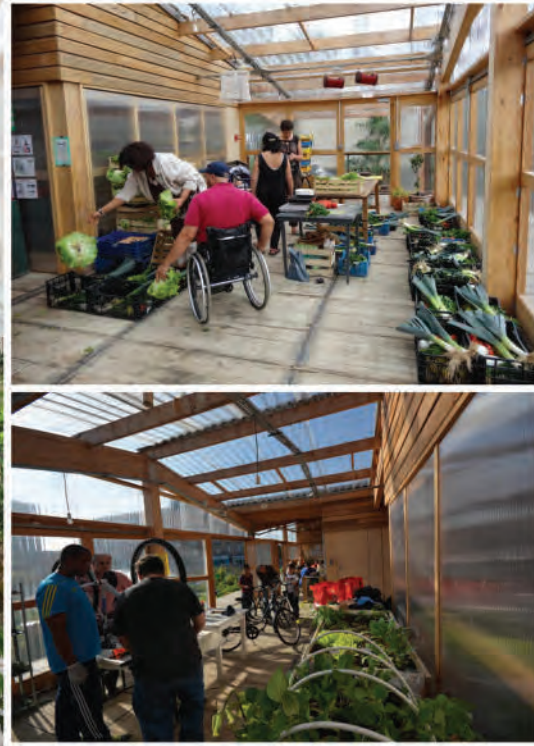


- COMMUNITY ORIENTATED
- JOB CREATION
- FROM THE COMMUNITY FOR THE COMMUNITY
- RHIZOMATIC
- ACCESSIBLE

PROGRAMME OF THE RHIZOME

PROGRAM REQUIREMENTS

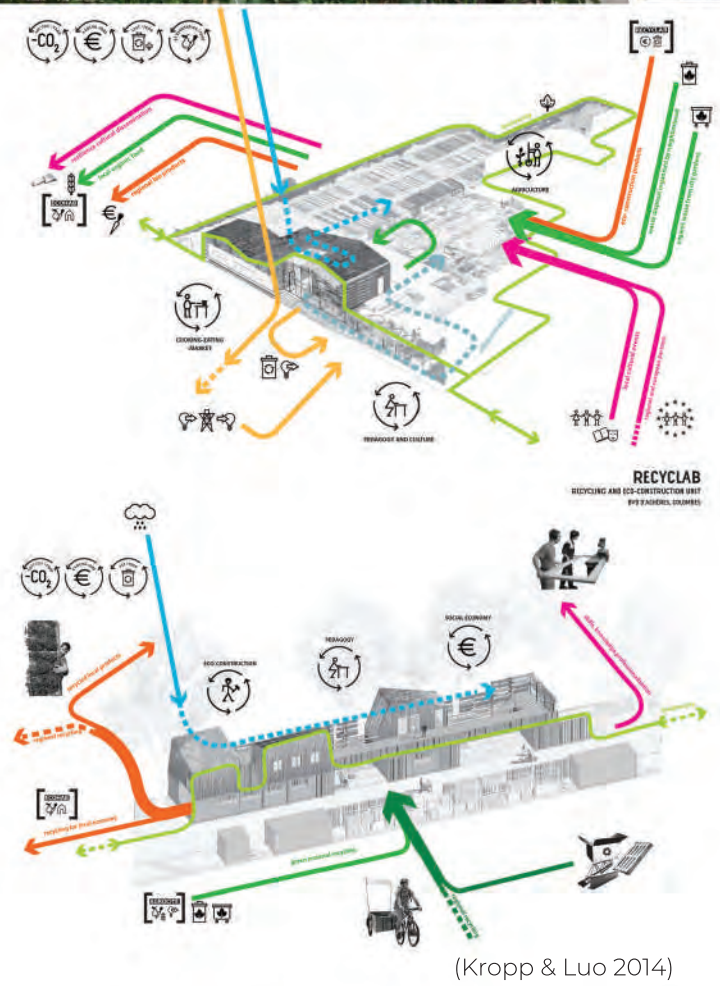




R-URBAN

R-urban is located in France within a housing estate on the periphery of the city. It combats unemployment with a productive and ecological complex consisting of community food gardens, an experimental micro-farm, a market, cooperative workshops and spaces for storing and reusing recovered materials.

R-Urban consists of three test/pilot projects, each focusing on one major aspect to generate social, economic and ecological assets, including: recycling and eco-construction; civic urban agricultural; and ecological cooperative housing.

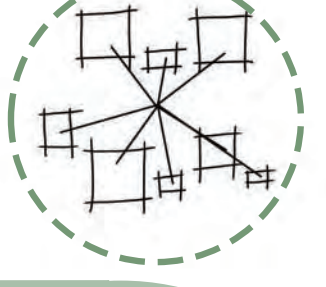


GENERATE SOCIAL, ECONOMIC AND ECOLOGICAL ASSETS

CIVIC URBAN AGRICULTURE

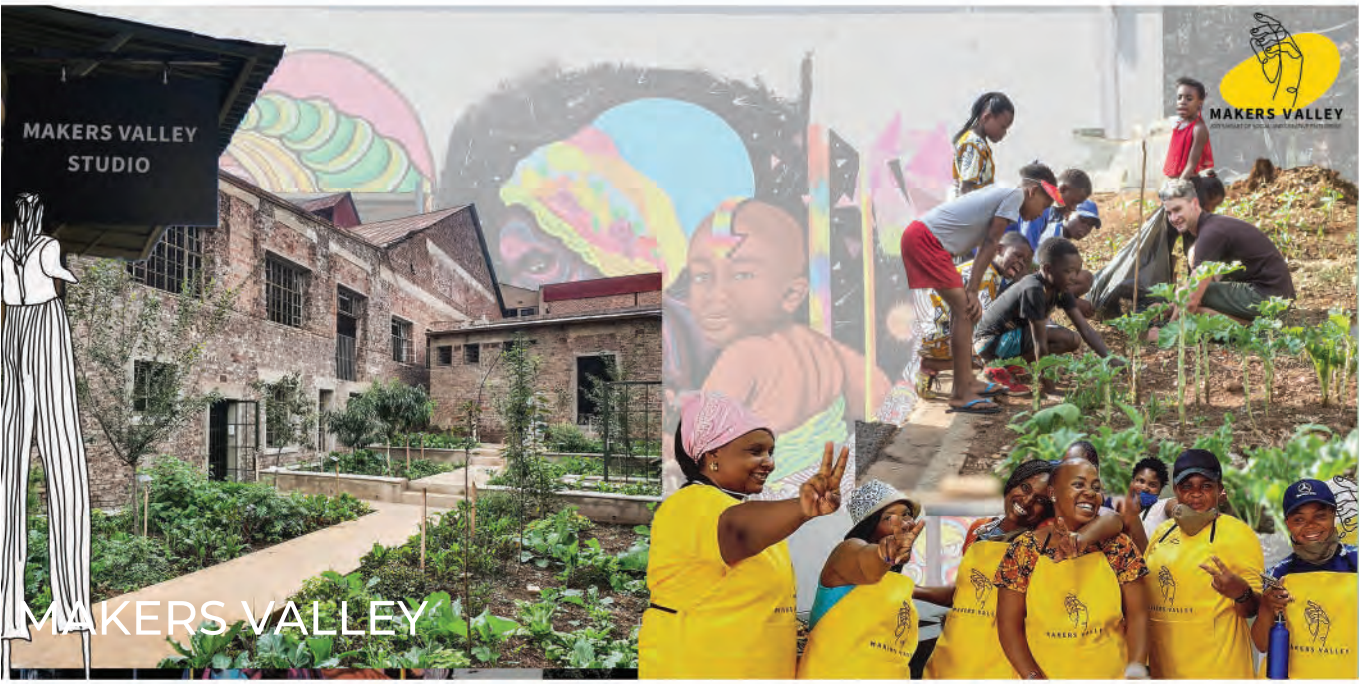
RECYCLING & ECO-CONSTRUCTION

ECOLOGICAL CORPORATE HOUSING



OVERVIEW R-URBAN

(Kropp & Luo 2014)



MAKERS VALLEY

Victoria Yards has become a hub of creativity, collaboration, and community-driven initiatives. Through feeding programs, vegetable growing, resource trading, and supporting local vendors, they navigated the lockdown successfully and created new enterprise opportunities, establishing a model for future community upliftment.

(Thompson 2020)

NOW

Covid-19 Community Kitchen was opened

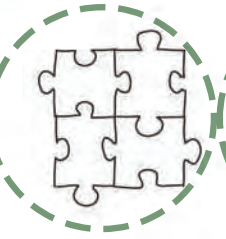
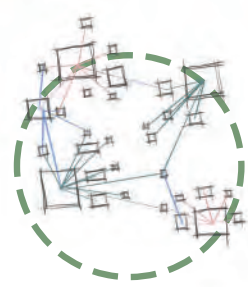
SOON

Rhizomatic growth when kitchen expanded involving greater community

LATER

Vegetable gardens starter kit was offered to the community to support the feeding scheme

OVERVIEW



RHIZOMATIC GROWTH

MODULAR DESIGN

UPCYCLED MATERIALS

FIT FOR CONTEXT

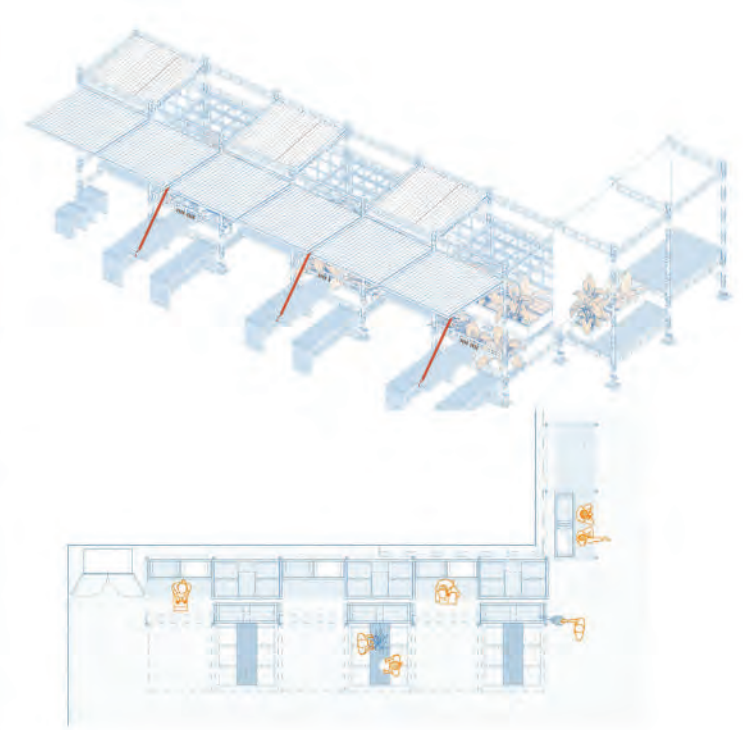
COMMUNITY INCLUSION

MAKERS VALLEY

PRINCIPALS RELATED TO THE RHIZOME

PROGRAMMATIC PRECEDENT STUDIES





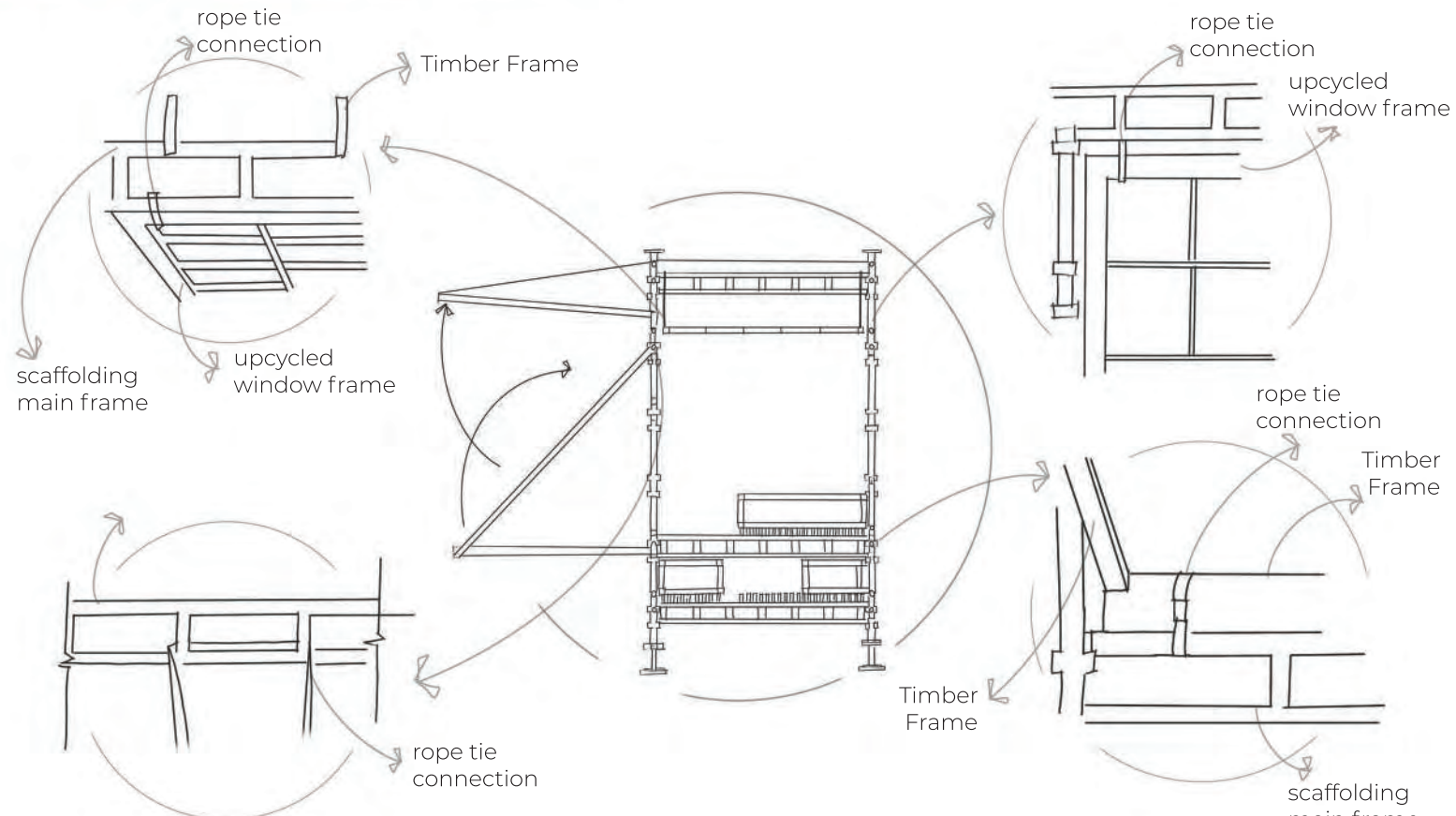
AXO & PLANS

Kasvattamo greenhouse, a temporary installation in the Helsinki Museum courtyard, raises awareness about locally sourced food and prototypes urban farming in vacant urban spaces.

The structure mimics a plant's life cycle, growing with the plants. Its core is a modular scaffolding system with foldable tables and roofs for flexibility.

The rhizome and the greenhouse are examples of rhizomatic growth, includes modular design, makes use of upcycled materials, are fit for context and include the community.

(Pintos 2020)



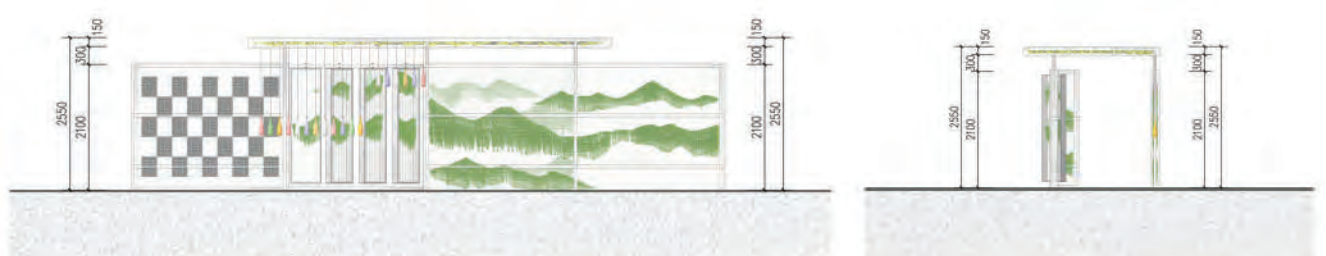
CONSTRUCTION

OVERVIEW

KASVATTAMO GREENHOUSE



ZERO PAVILION



ELEVATIONS

The main aim of the project was to blend the Pavilion as if nothing was there. The pavilion was designed to blend into the landscape making the pavilion extremely fit for context.

The project aims to give back to nature using polycarbonate sheeting and flexible PV for solar panel generation. The whole Pavilion is constructed from Recycled goods retrieved from the Zero carbon Garden.

OVERVIEW

(Zhang 2017)



RHIZOMATIC GROWTH

MODULAR DESIGN

UPCYCLED MATERIALS

FIT FOR CONTEXT

COMMUNITY INCLUSION

TECHNICAL PRECEDENT STUDIES

PRINCIPALS RELATED TO THE RHIZOME



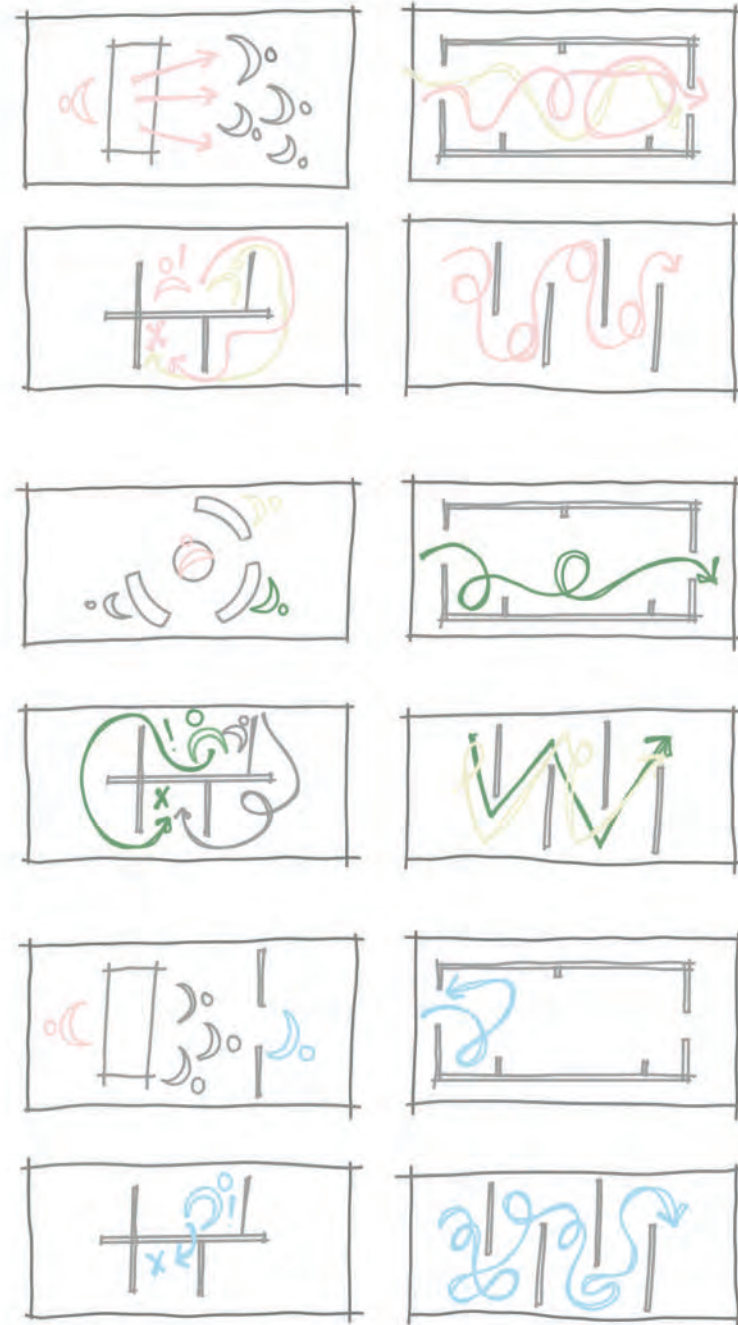
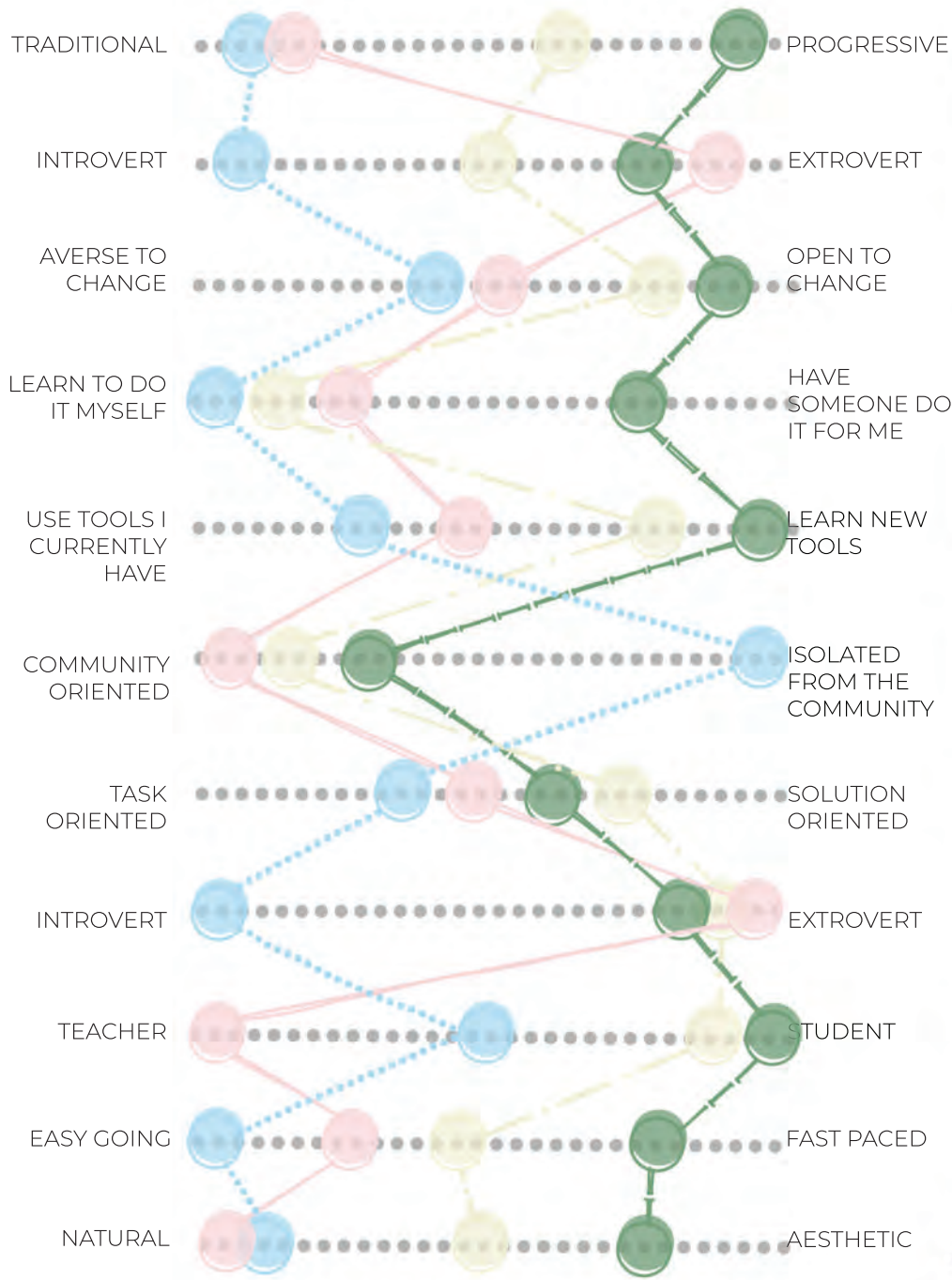


Busi, the community "Mama" teaching at the school

Lucia, a former student who wants to learn more about local cooking

Freeborn, who has a garden but needs facilities to cook and sell his produce, aiming to rent market stalls

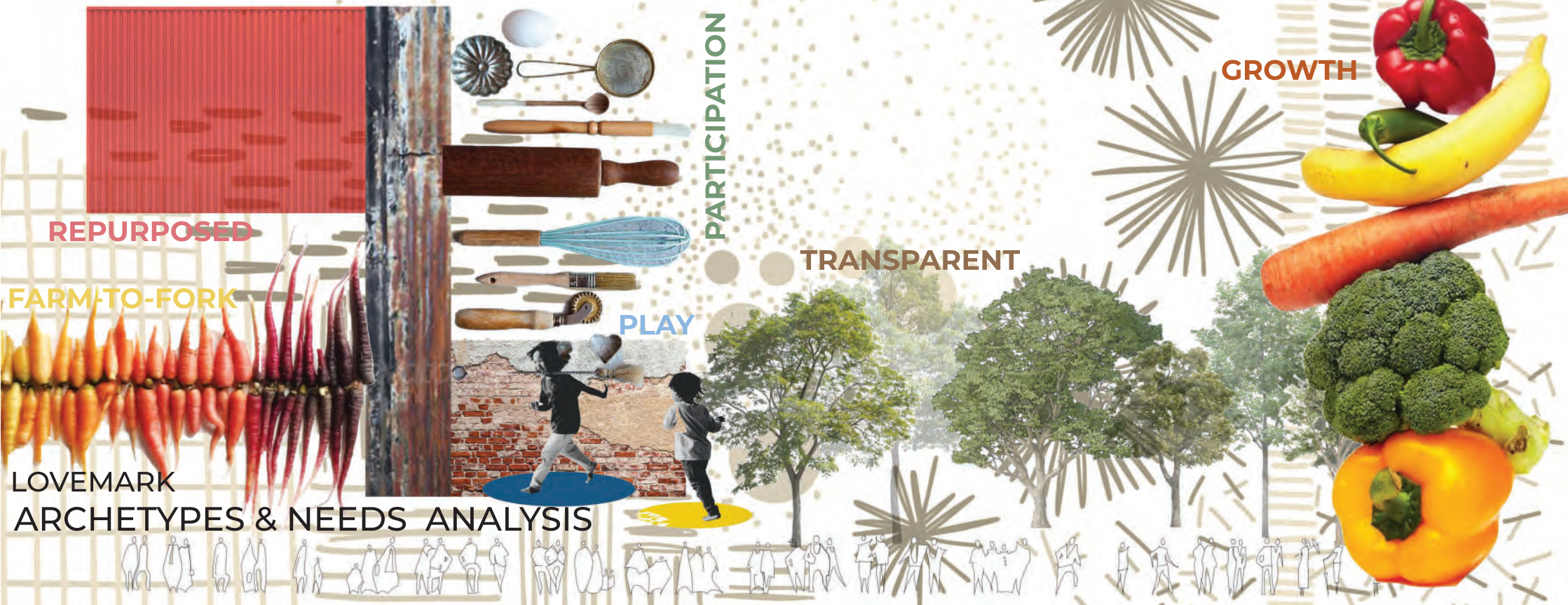
Dina, aspiring to open a food business



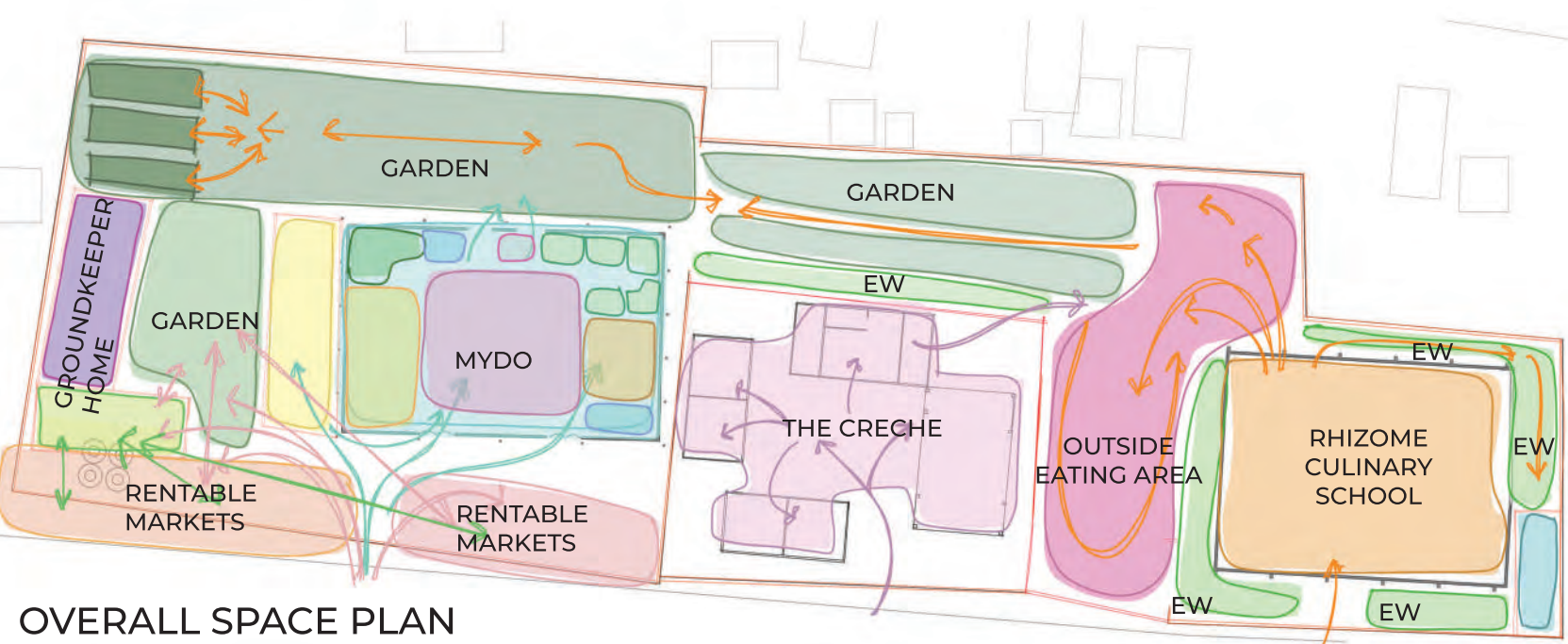
ARCHETYPES

ARCHETYPAL REQUIREMENTS

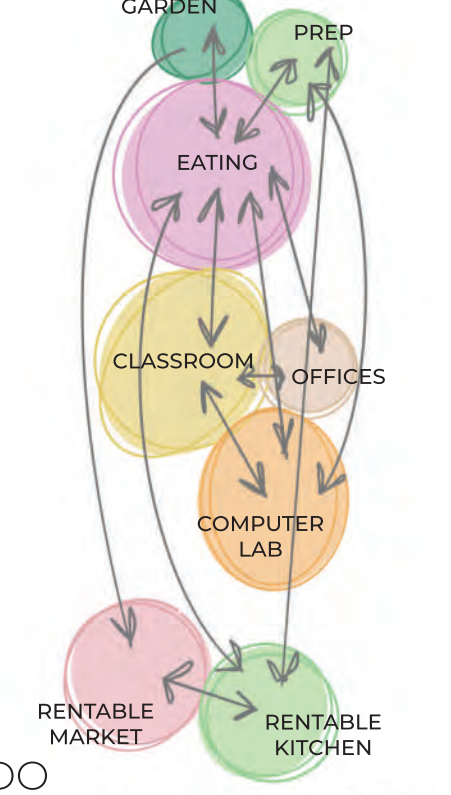
SPATIAL REQUIREMENTS



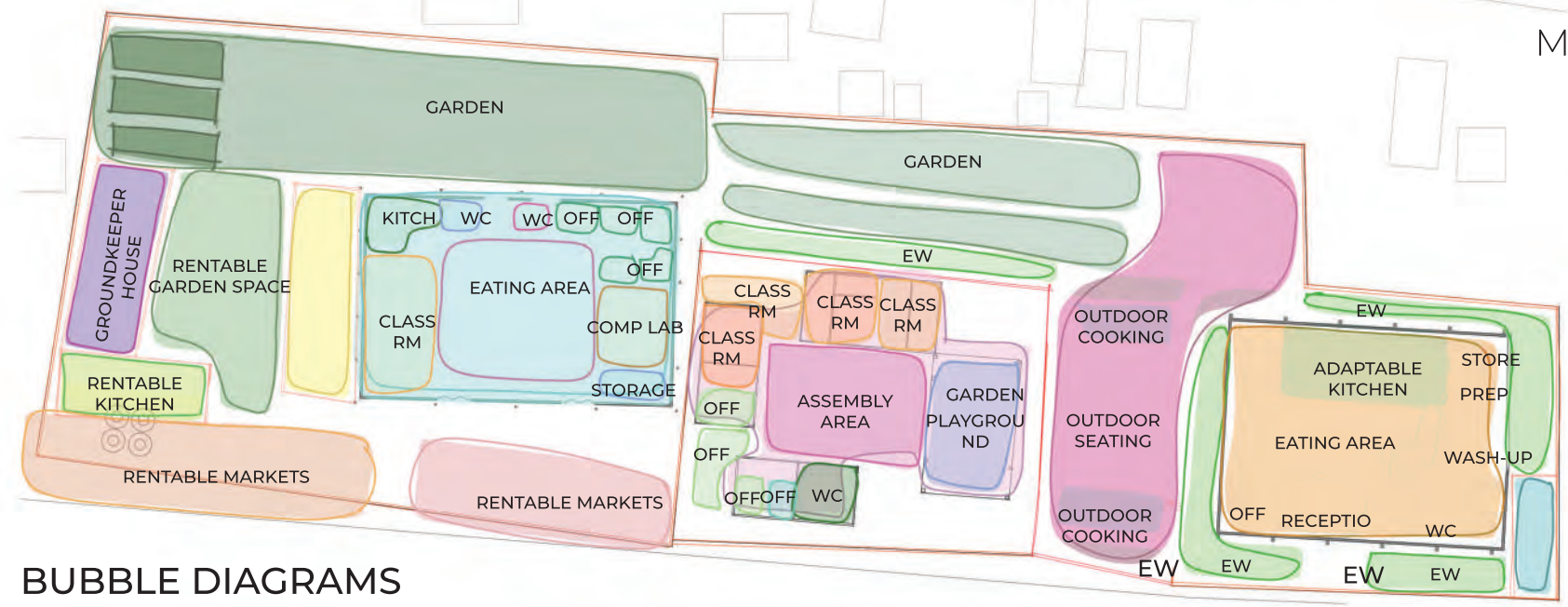
ARCHETYPES & NEEDS ANALYSIS



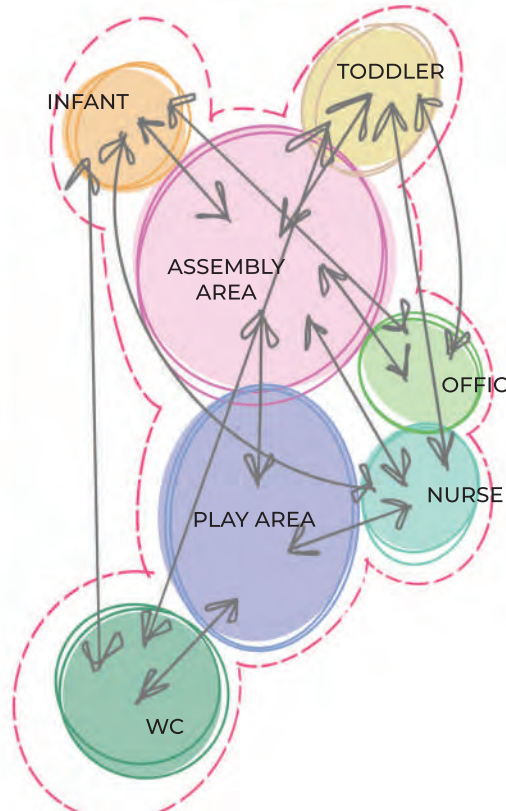
OVERALL SPACE PLAN



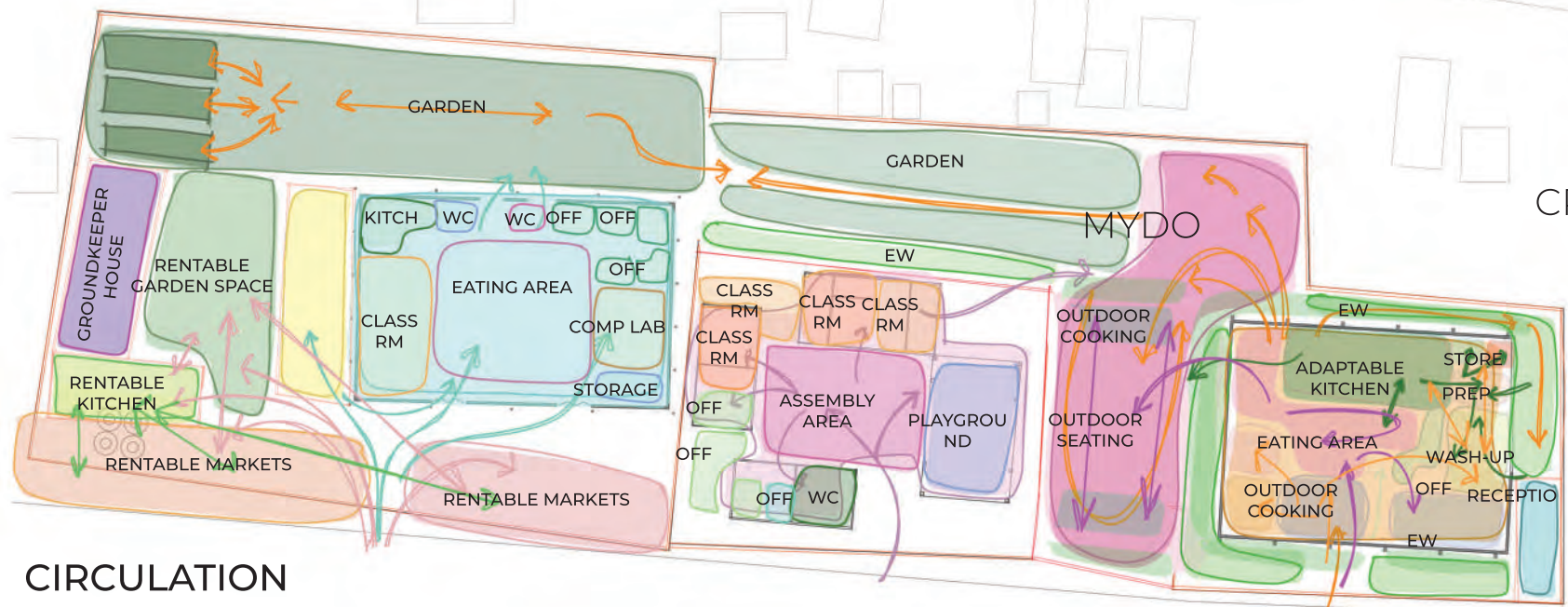
MYDO



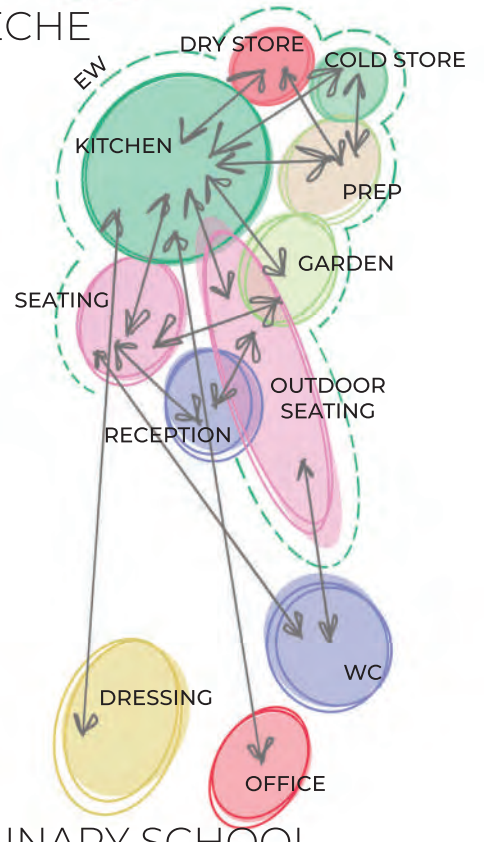
BUBBLE DIAGRAMS



CRECHE



CIRCULATION



CULINARY SCHOOL

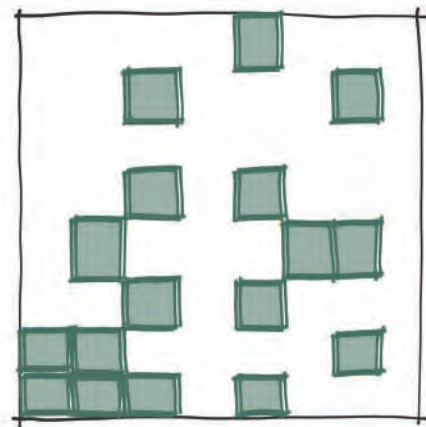


THE RHIZOME CONCEPT SPACE PLANNING

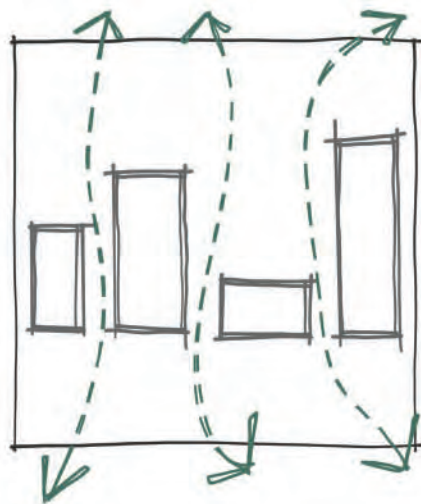




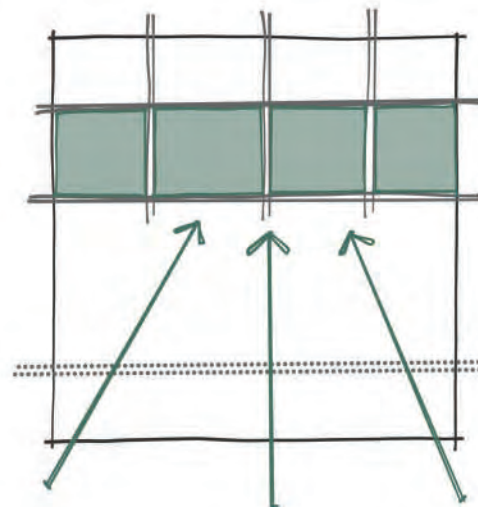
GRID FORMATION



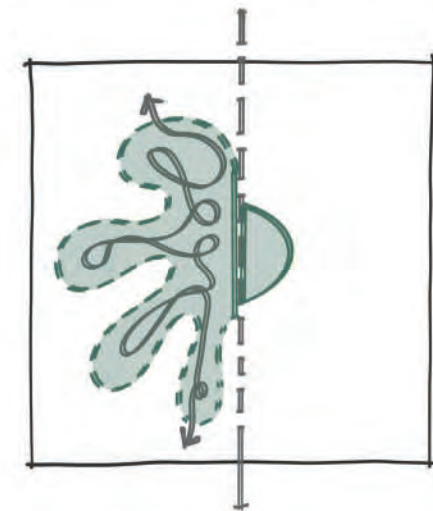
RHIZOMATIC
GROWTH FROM
SOURCE



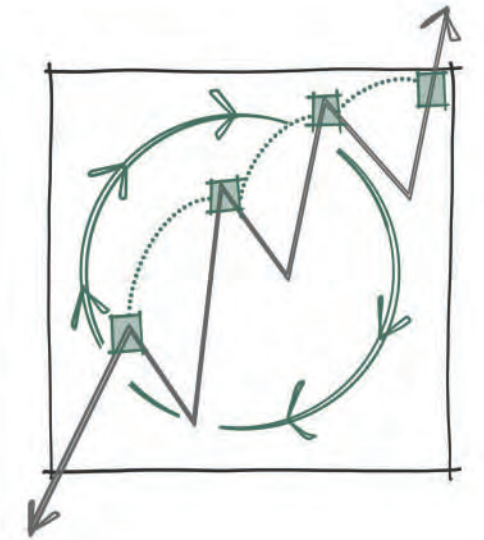
MULTIPLE POINTS
OF ENTRY



STREET INTERFACE
INTERACTION



PUBLIC VS PRIVATE
INTERFACE



INTERCONNECTED
NODAL GROWTH

SPATIAL PARTI-DIAGRAMS

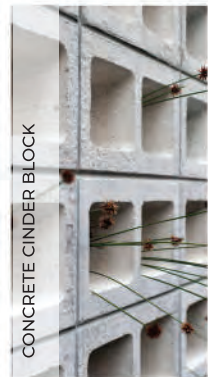


SUPPLIER:
READYMIX
CONCRETE
PRETORIA
(READYMIX 2024)



Gives ode to the need for permanency within Melusi

SUPPLIER:
COROBRIK
(COROBRIK 2024)



Gives ode to Familiarity within Melusi. Growth & serves as a tangible symbol for permanency

SUPPLIER:
COROBRIK
& DONATORS
(COROBRIK 2024)



Gives ode to Familiarity within Melusi & promotes innovative ways for repurposing materials

MANUFACTURED
ON SITE



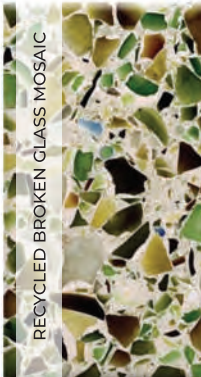
Gives Ode to the Landscape of Melusi & History since it was a quarry

MANUFACTURED
ON SITE
MORTAR SUPPLIER:
PPC CEMENT
(PPC 2024)



Gives ode to Familiarity within Melusi & promotes innovative ways for repurposing materials

SUPPLIER
CEMCRETE
(CEMCRETE 2024)
GLASS:
RECYCLED
BOTTLES



Gives ode to Familiarity within Melusi & promotes innovative ways for repurposing materials

SUPPLIERS:
AFRICA SCRAP
RECYCLERS
(2KM AWAY FROM
MELUSI)



Gives ode to Familiarity within Melusi & supports local suppliers

SUPPLIER
CEMCRETE
(CEMCRETE 2024)



Gives ode to Familiarity within Melusi & promotes innovative ways for repurposing materials

SUPPLIERS:
MAISEY PLASTICS
(MAISEY 2024)



Gives ode to the Familiarity in terms of construction Within Melusi Community

SUPPLIER:
NJR STEEL WESTERN
PRETORIA (2KM
AWAY FROM MELUSI)
(NJR STEEL)



gives ode to growth in Melusi

MANUFACTURED
ON SITE



gives ode to growth in Melusi

SUPPLIER:
BOSUN
(BOSUN 2024)



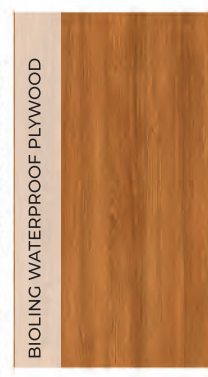
Gives ode to the rhizome

SUPPLIER:
LADY TIMBER
(LADYTIMBER 2024)



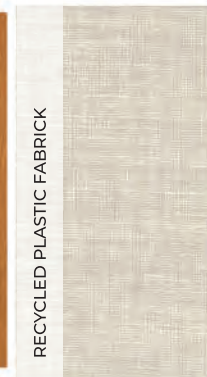
Alleviates the harshness of using corrugated steel that is very much present in Melusi

SUPPLIER:
YORK TIMBERS
(YORKTIMBER 2024)



Used for the warmth as well as its durability

SUPPLIER:
ROMATEX
(ROMATEX 2024)



Seen as the Least Dense. Acting as a symbol for comfort





THE CULINARY RHIZOME PLAN | SCALE 1:100



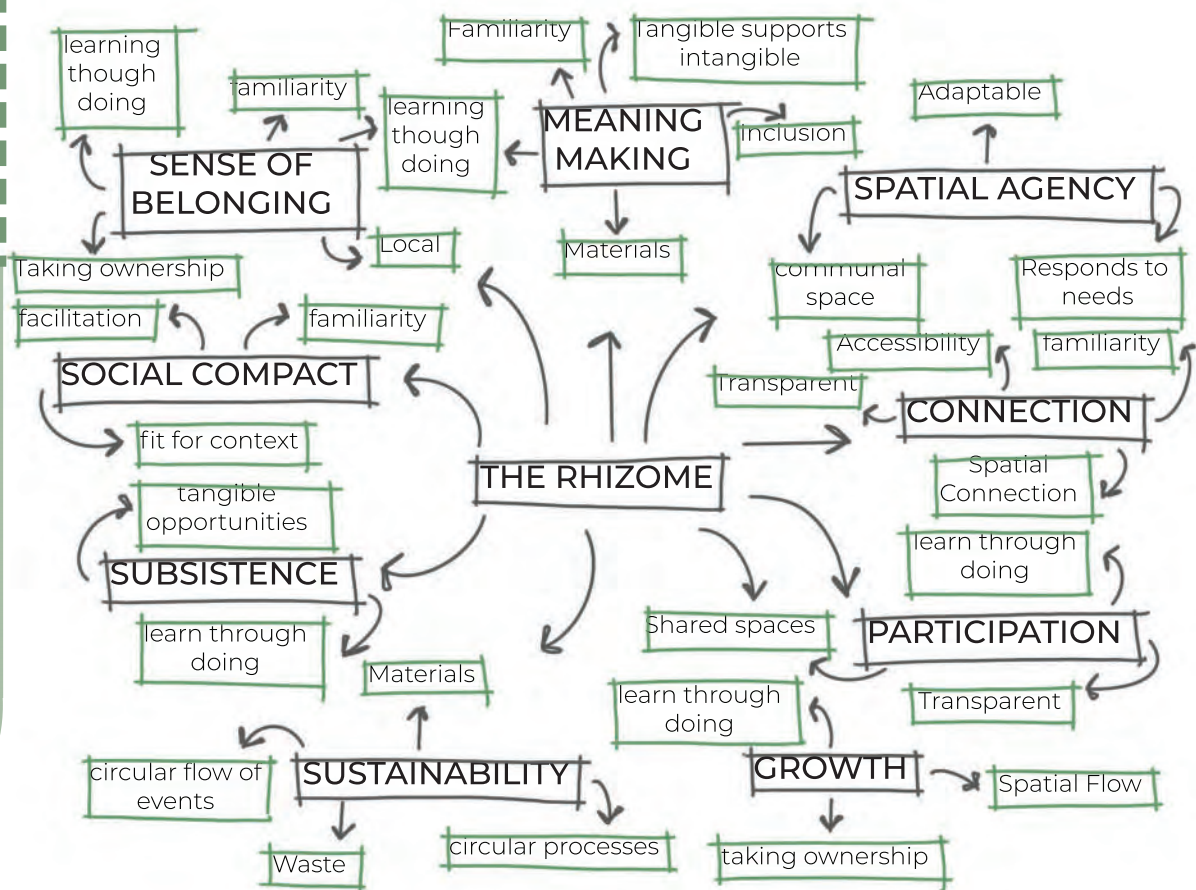
HOW CAN THE TECNIFICATION (TANGIBLE) OF THE RHIZOME FACILITATE SKILLS AND KNOWLEDGE EXCHANGE, GROWTH & ADAPTABILITY WHILE EVOKING A SENSE OF BELONGING AND FAMILIARITY

TECHNICAL QUESTION

HOW CAN A TANGIBLE ELEMENT SUPPORT THE INTANGIBLE PROGRAMMES WITHIN THE RHIZOME

HOW CAN A TANGIBLE ELEMENT ALLOW FOR SKILLS AND KNOWLEDGE EXCHANGE?

HOW CAN A TANGIBLE ELEMENT EVOKE A SENSE OF BELONGING AND ALLOW THE COMMUNITY TO TAKE OWNERSHIP

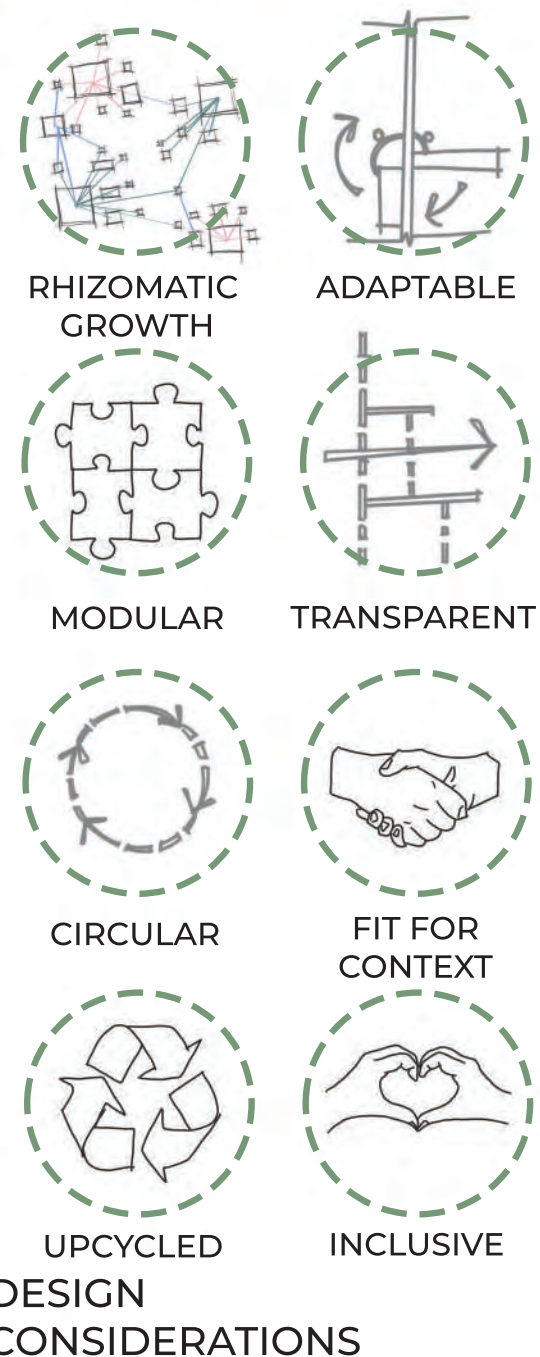
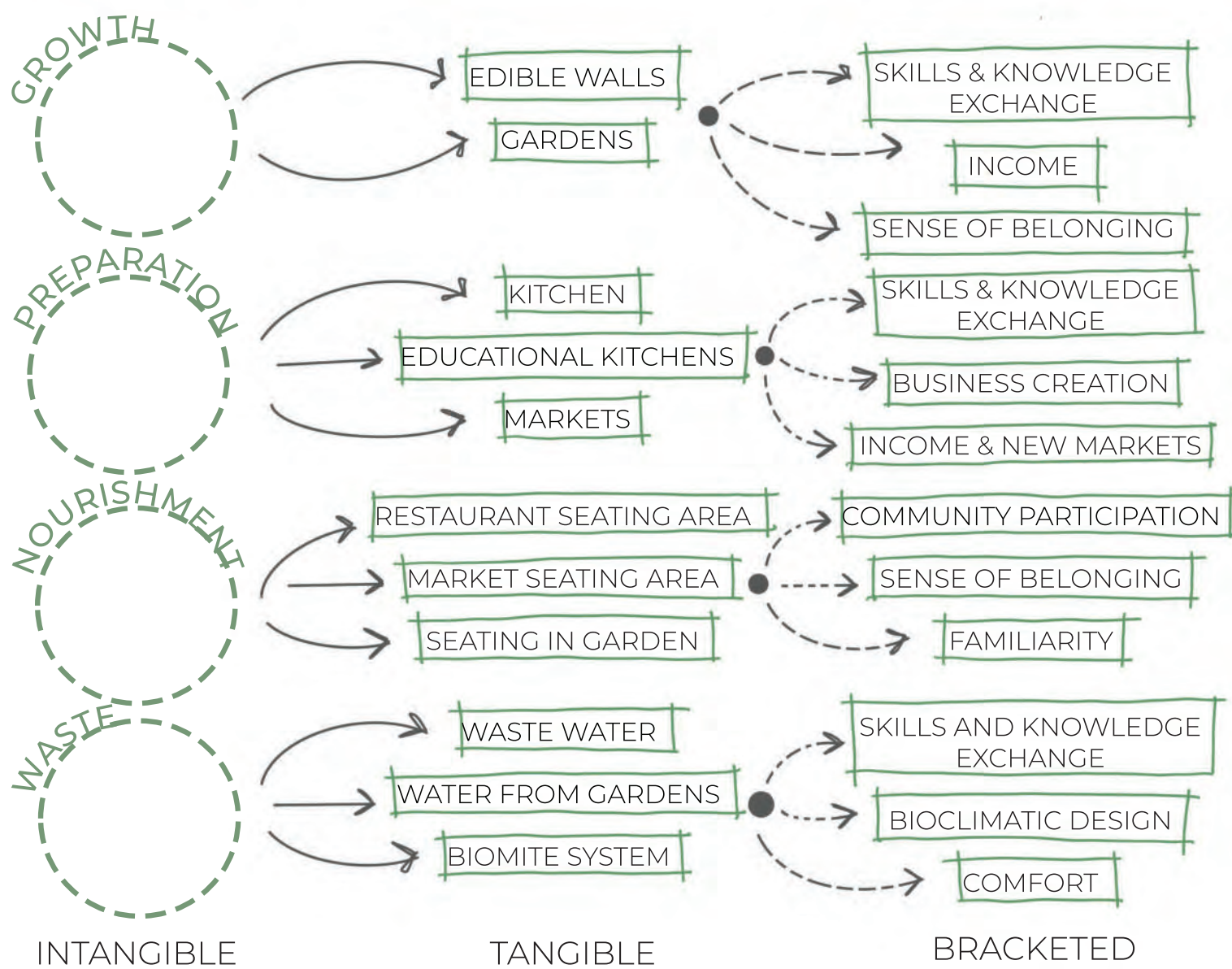


THEMES IDENTIFIED

SUB-QUESTIONS

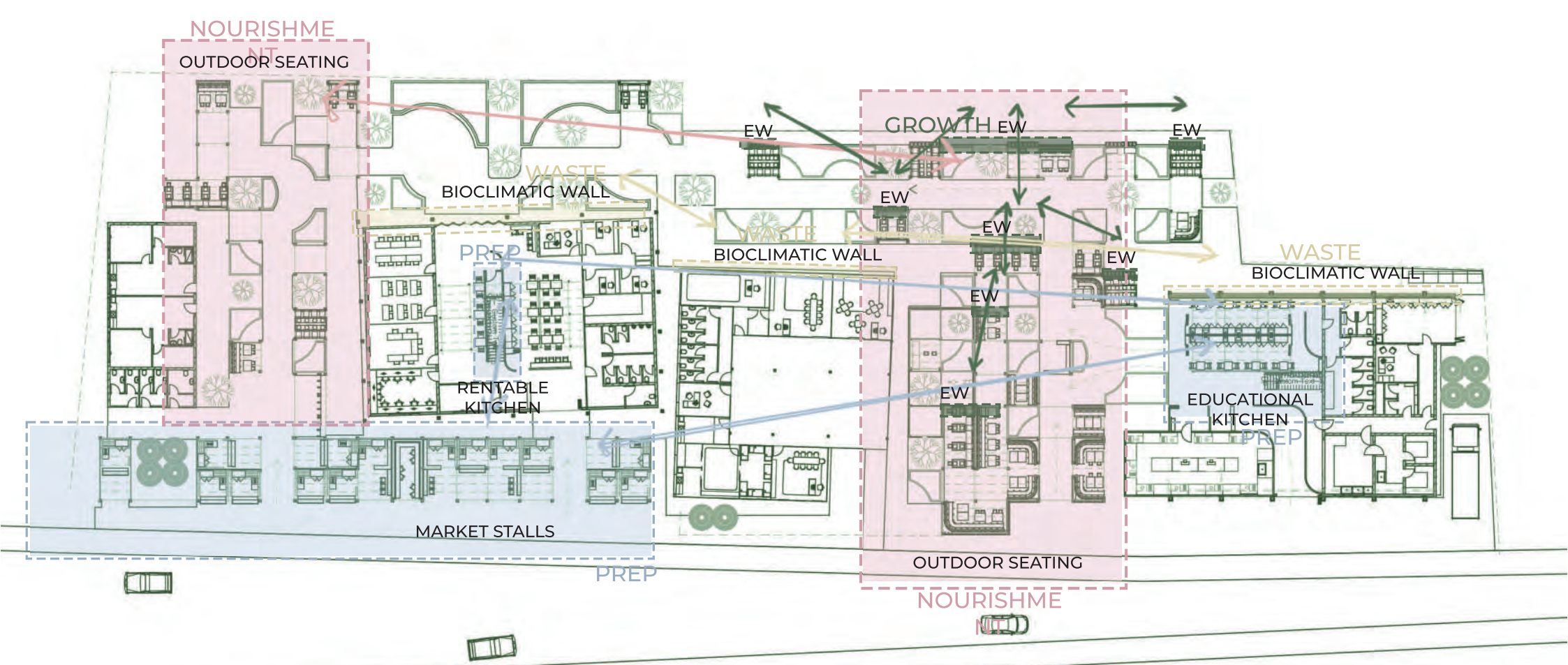


MELUSI TANGIBLE TYPOLOGY

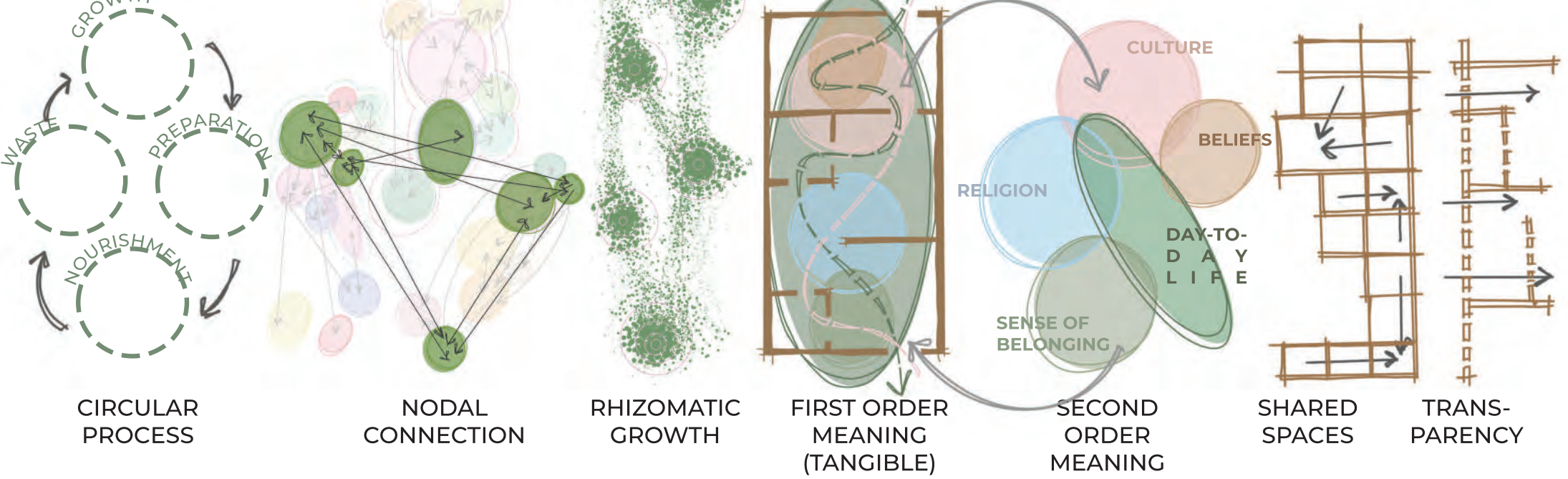


TECHNICAL RELATIONS TO PROGRAM OBJECTIVES
TECHNICAL CONSIDERATIONS

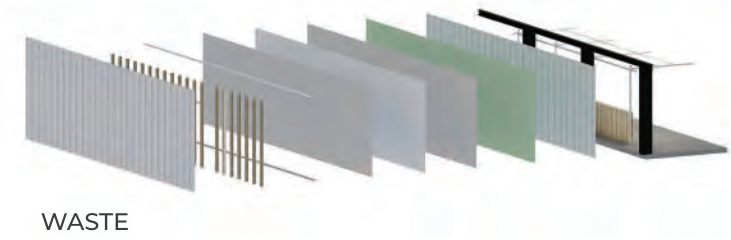
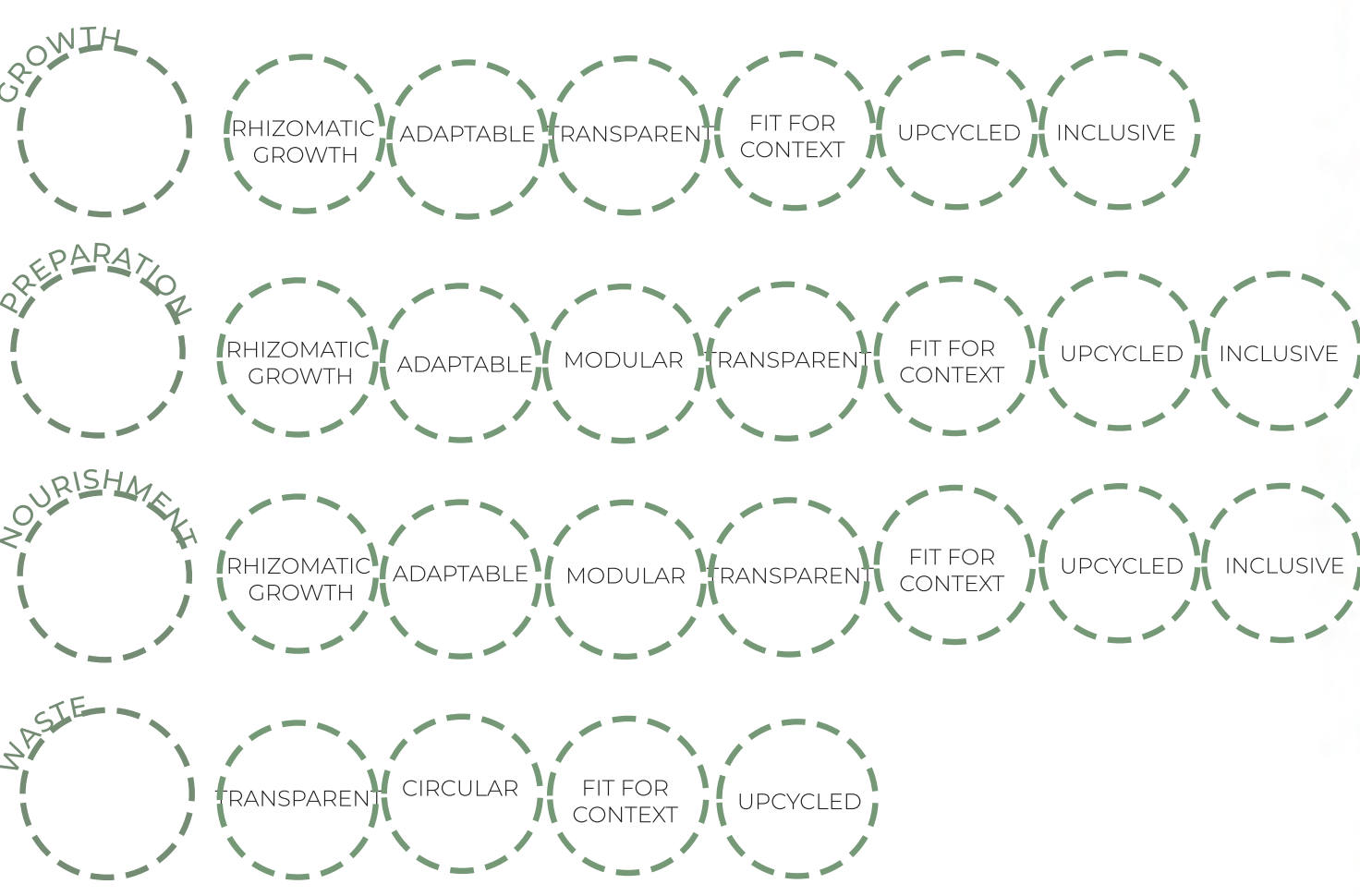




NODES CHOSEN ON PLAN



CONSIDERATIONS



NODES CHOSEN & CHARACTERISTICS OF NODES

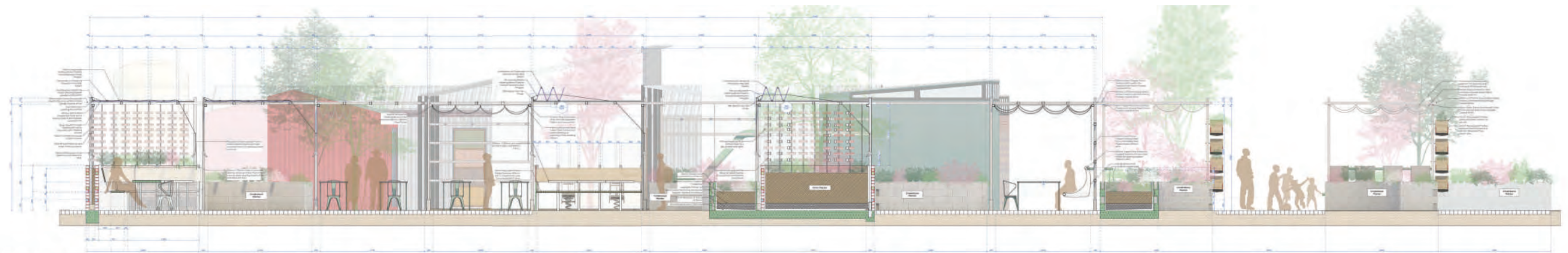
TECHNICAL NODES CHOSEN

RENDERS OF NODE

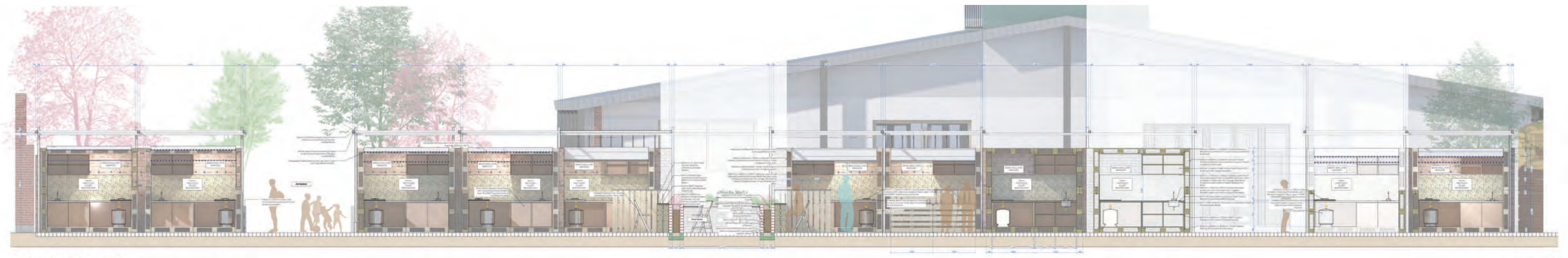




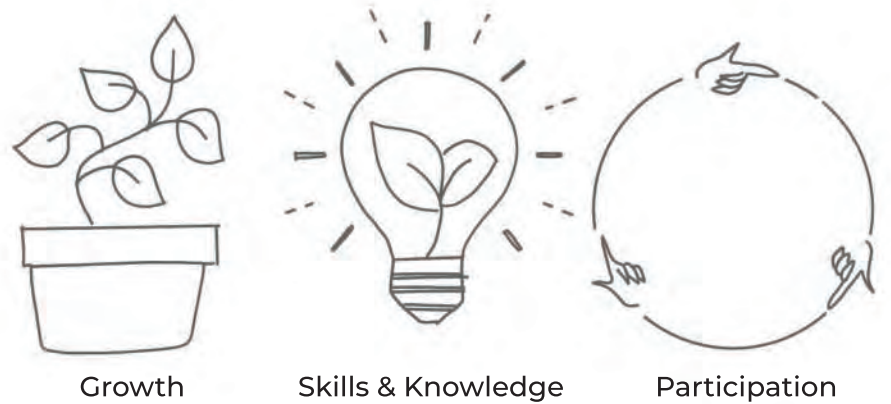
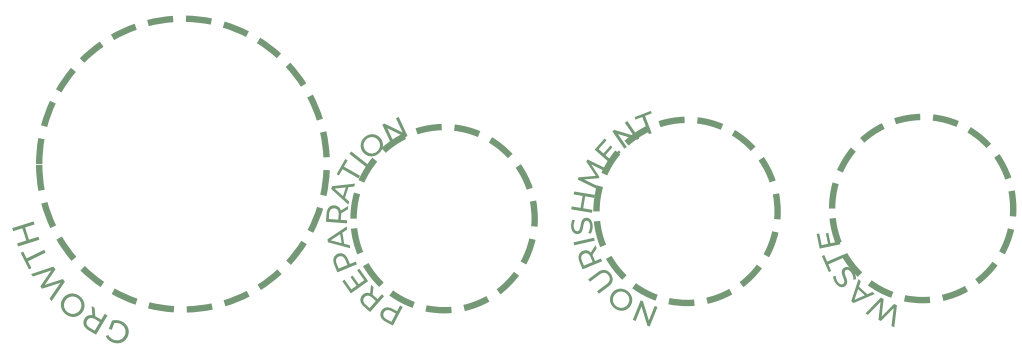
LONG SECTION THROUGH CULINARY SCHOOL



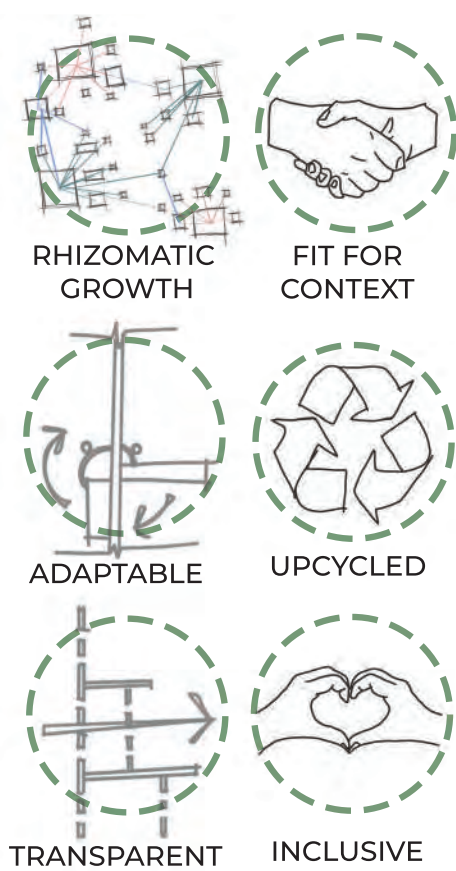
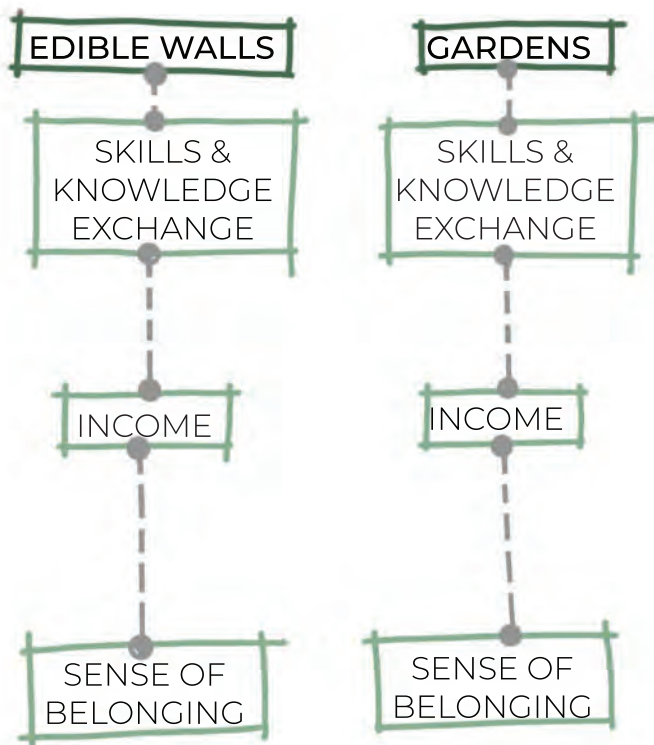
LONG SECTION OF EATING AREAS



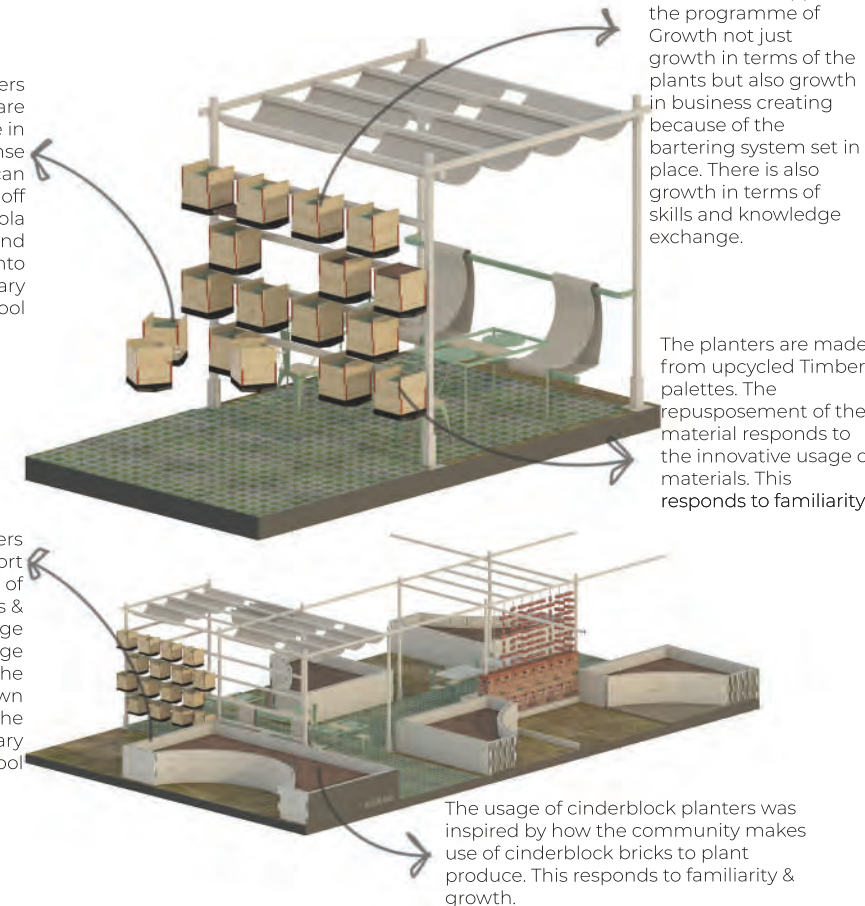
1 LONG SECTION OF MARKETS



CIRCULAR SYSTEM



The Planters are adaptable in the sense that they can be pulled off the pergola system and carried into the culinary school



The Planters support the programme of Growth not just growth in terms of the plants but also growth in business creating because of the bartering system set in place. There is also growth in terms of skills and knowledge exchange.

The planters are made from upcycled Timber palettes. The repurposing of the material responds to the innovative usage of materials. This responds to familiarity.

The planters also support the notion of skills & knowledge exchange since the plants grown are for the culinary school

The usage of cinderblock planters was inspired by how the community makes use of cinderblock bricks to plant produce. This responds to familiarity & growth.

FIRST & SECOND ORDER MEANING

CHARACTERISTICS

RESPONSE TO TECHNICAL QUESTION

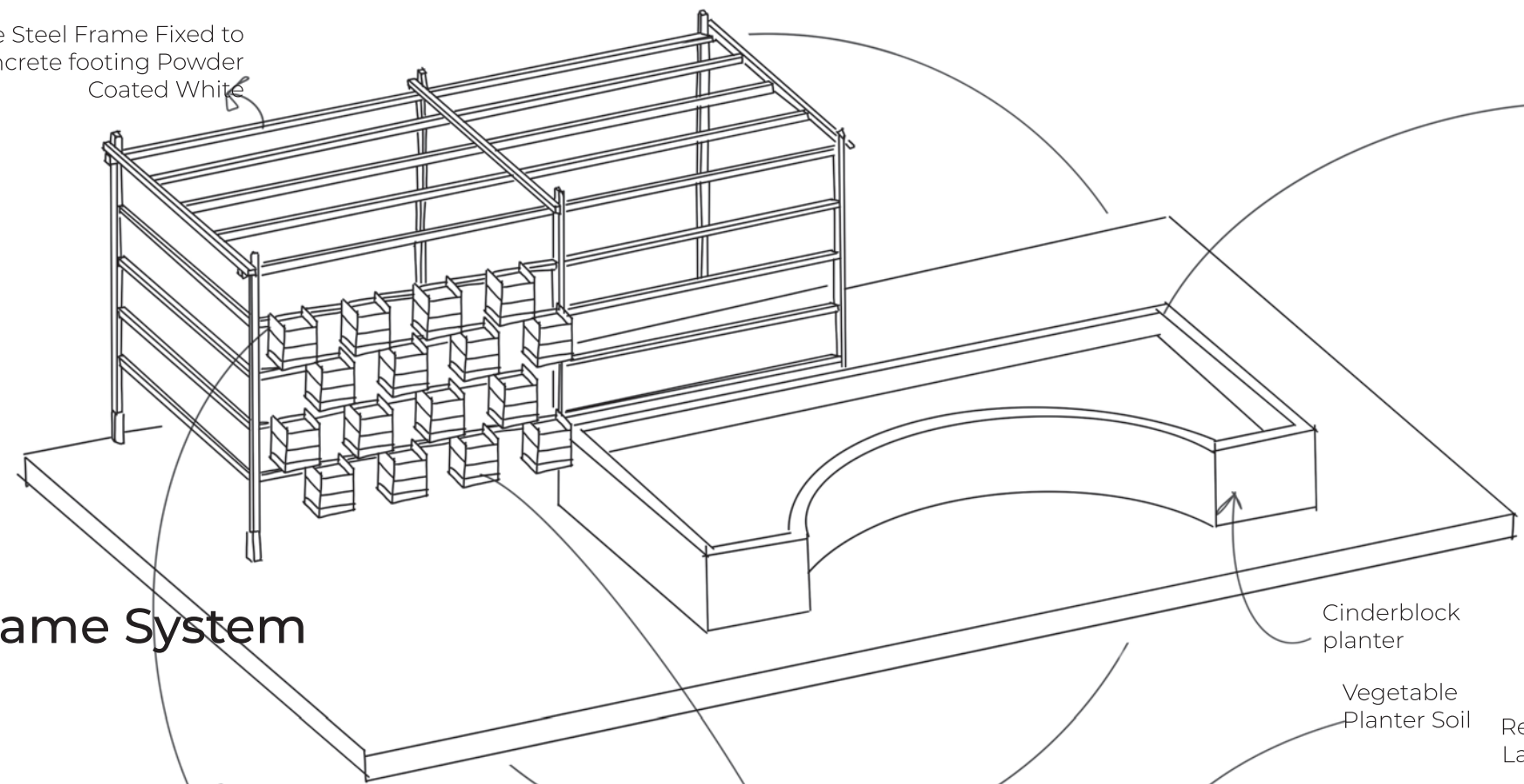
DRAWING	RESEARCH	CAD MODELLING	DETAILING	MAQUETTE TESTING	OVERALL CONTEXT	WRITTEN CONCLUSION	CONCLUSION
 PLANTER DRAWING 1	N/A EDIBLE WALL SYSTEM 1	N/A	N/A		THE EDIBLE WALL RECEIVED FROM DR CARIN BOTHES WAS UTILISED AS A BRASE STRUCTURE FOR THE EDIBLE WALL UTILISED AT THE RHIZOME. THE MANUFACTURING OF THE PLANTER WILL BE FIT FOR CONTEXT IN TERMS OF DURABILITY BUT WILL NOT BE ACCESSIBLE.	ALTHOUGH THE SHAPE IS SUFFICIENT, IT DOES NOT ALLOW FOR WATER CATCHMENT AND IT WILL NOT BE HABLE TO HOOK ONTO THE STEEL SYSTEM.	
 PLANTER DRAWING 2	THE SECOND EDIBLE WALL WILL BE AN ADAPTATION FROM THE FIRST EDIBLE WALL SYSTEM				PLANTER 2 SEEMS VERY FIT FOR CONTEXT BECAUSE IT SUPPORTS ADAPTABILITY WITH THE NEW HOOK SYSTEM AS WELL AS THE WATER SYSTEM, IT SUPPORTS GROWTH SINCE MULTIPLE PLANTERS CAN BE UTILISED AND IT SUPPORTS SKILLS AND KNOWLEDGE SINCE INDIVIDUALS LEARN HOW TO GROW EDIBLE PLANTS.	PLANTER 2 IS A MORE APPROPRIATE CHOICE SINCE IT TIES IN WITH THE MATERIAL ETHOS OF RECYCLED MATERIALS AND IT WILL BE MORE SUFFICIENT IN TERMS OF USAGE. THIS TANGIBLE WILL SUPPORT THE INTANGIBLE PROGRAMMES INTENDED.	
N/A FIXING DRAWING 1	 HOOK-ON HINGE	N/A	N/A	N/A	THE FIXING DETAIL IS APPROPRIATE IN TERMS OF ADAPTABILITY SINCE IT CAN BE REMOVED, HOWEVER BECAUSE CHILDREN AREA PRESENT, THE PLANTER SHOULD BE ABLE TO BE FIXED TO THE STEEL FRAME BUT REMOVEABLE AS WELL.	THIS HINGE IS NOT SECURE THUS IT LEAVES AN OPPORTUNITY FOR CHILDREN TO TAMPER WITH THE FIXING AS WELL AS EDIBLE WALL.	
 HINGE DRAWING 2	 HAND KNOB TIGHTENING SCREW	N/A		N/A	THE NEW PROPOSED FIXING DETAIL IS MORE APPROPRIATE IN TERMS OF SKILLS AND KNOWLEDGE EXCHANGE. SINCE THE DETAIL IS EXPOSED, IT ALLOWS FOR ADAPTABILITY SKINCE THE SCREW CAN BE TIGHTENED FOR FIXING AS WELL AS REMOVING THE PLANTER.	THIS NEW FIXING DETAIL IS MORE APPROPRIATE SINCE IT ALLOWS VISITORS TO OBSERVE THE CONSTRUCTION THEREOF IT ALSO ALLOWS FOR THE DETAIL TO BE MORE SOUND WITH THE NEW SCREW. THIS DETAIL IS APPROPRIATE FOR SUPPORTING THE INTANGIBLE PROGRAMMES CONNECTED THERETO.	

METHODOLOGICAL TESTING

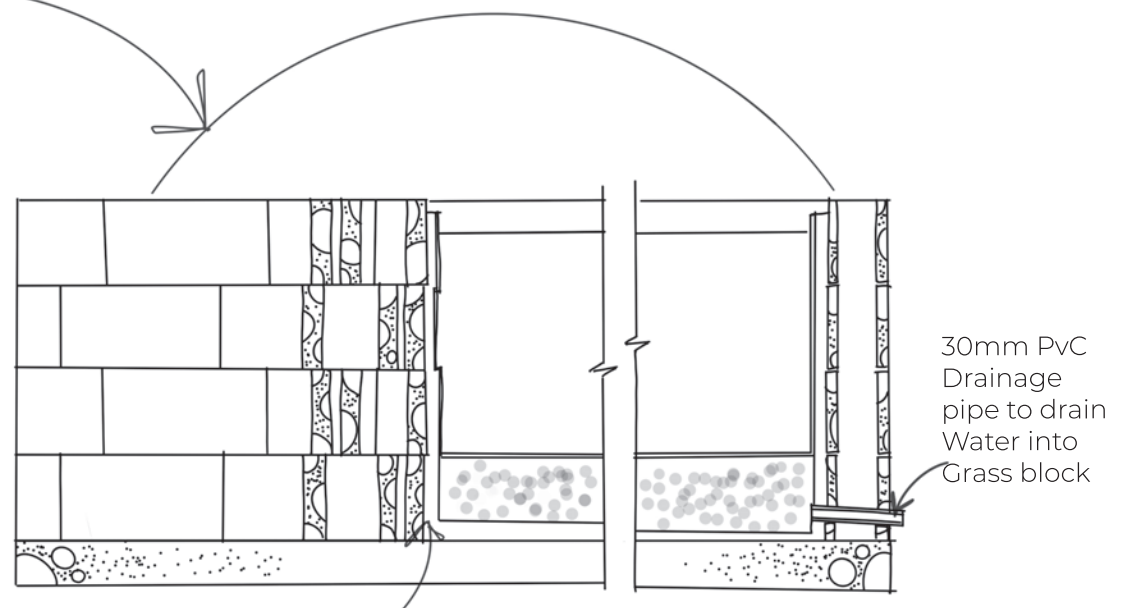
NODE 1 : GROWTH METHODOLOGICAL TESTING



Square Steel Frame Fixed to concrete footing Powder Coated White



Frame System



30mm PVC Drainage pipe to drain Water into Grass block

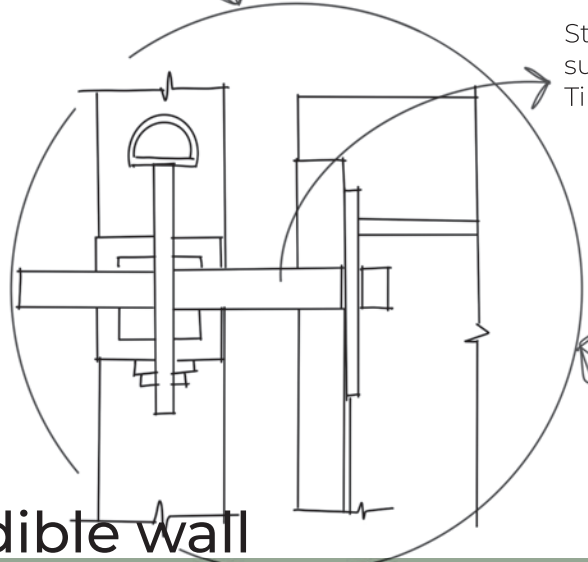
30mm Screed Lining around Interior of Planter

Japanese Chain Drain To guide Water into Planter from Market Roof Runoff

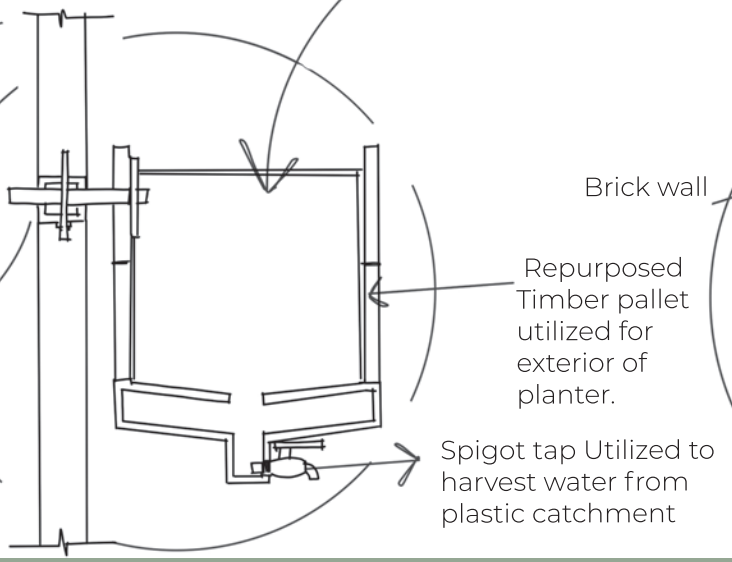
Cinderblock planter

Vegetable Planter Soil

Recycled Bottle Layad in screed of brick wal



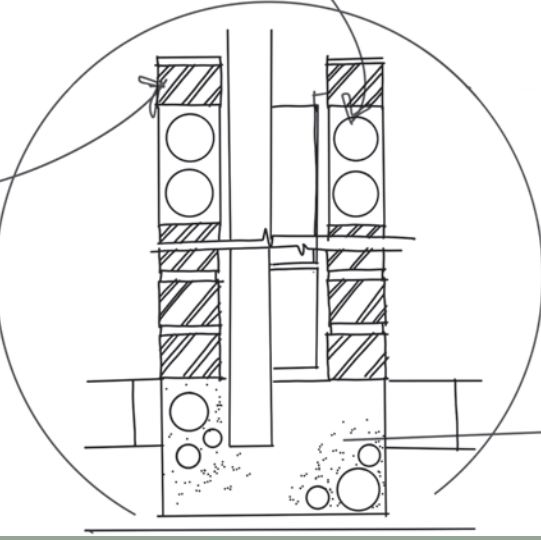
Steel Fixing that supports the Timber Planter



Brick wall

Repurposed Timber pallet utilized for exterior of planter.

Spigot tap Utilized to harvest water from plastic catchment



3mm DPM lining to Waterproof Planter

200mm x 340mm Cast In Site Concrete Footing for steel Frame structural support

Edible wall

NODE-01 DETAIL EXPLORATIONS

Planters



NAME **Thunberg's Pigweed**
 SCIENTIFIC *Amaranthus thunbergii*
 MEDICINAL VALUE
 NUTRITIONAL VALUE
 SIZE 500mm



NAME **Purslane/ Selele**
 SCIENTIFIC *Portulana oleracea*
 MEDICINAL VALUE
 NUTRITIONAL VALUE
 SIZE 200 - 500mm



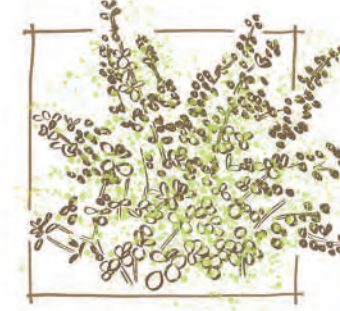
NAME **Creeping Foxlove**
 SCIENTIFIC *Asystasia gangetica*
 MEDICINAL VALUE
 NUTRITIONAL VALUE
 SIZE 2000mm



NAME **African Thyme**
 SCIENTIFIC *Coleus ambonicus*
 MEDICINAL VALUE
 NUTRITIONAL VALUE
 SIZE 1000mm



NAME **Water Mint**
 SCIENTIFIC *Mentha aquatica*
 MEDICINAL VALUE
 NUTRITIONAL VALUE
 SIZE 600 - 1000mm



NAME **Dwarf Elephant Food**
 SCIENTIFIC *Portulacaria afra prostrata*
 MEDICINAL VALUE
 NUTRITIONAL VALUE
 SIZE 2000 - 5000mm

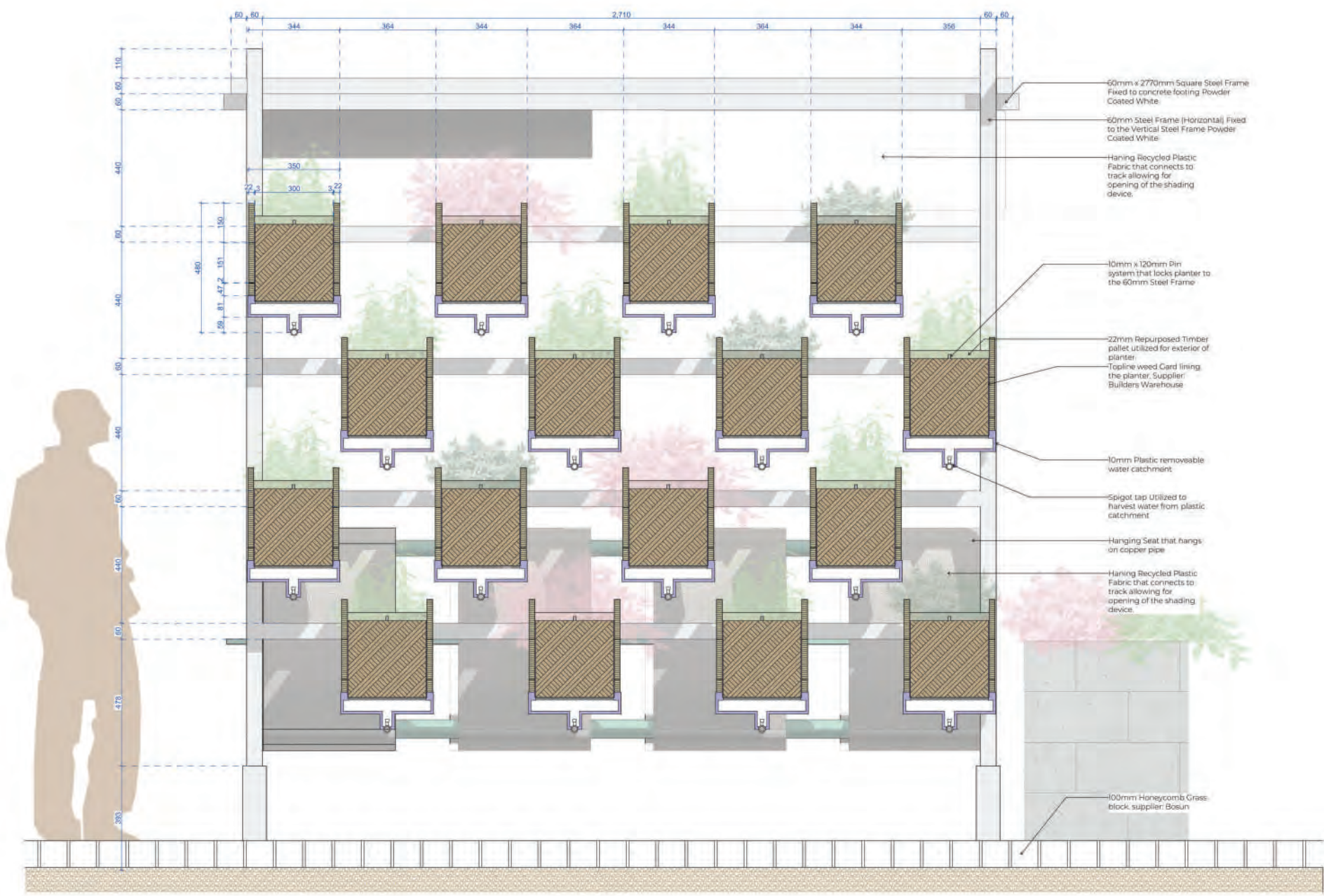


NAME **Black Eyed Pea**
 SCIENTIFIC *Vigna unguiculata*
 MEDICINAL VALUE
 NUTRITIONAL VALUE
 SIZE 4000mm

PLANTS TO GROW ON EDIBLE WALL

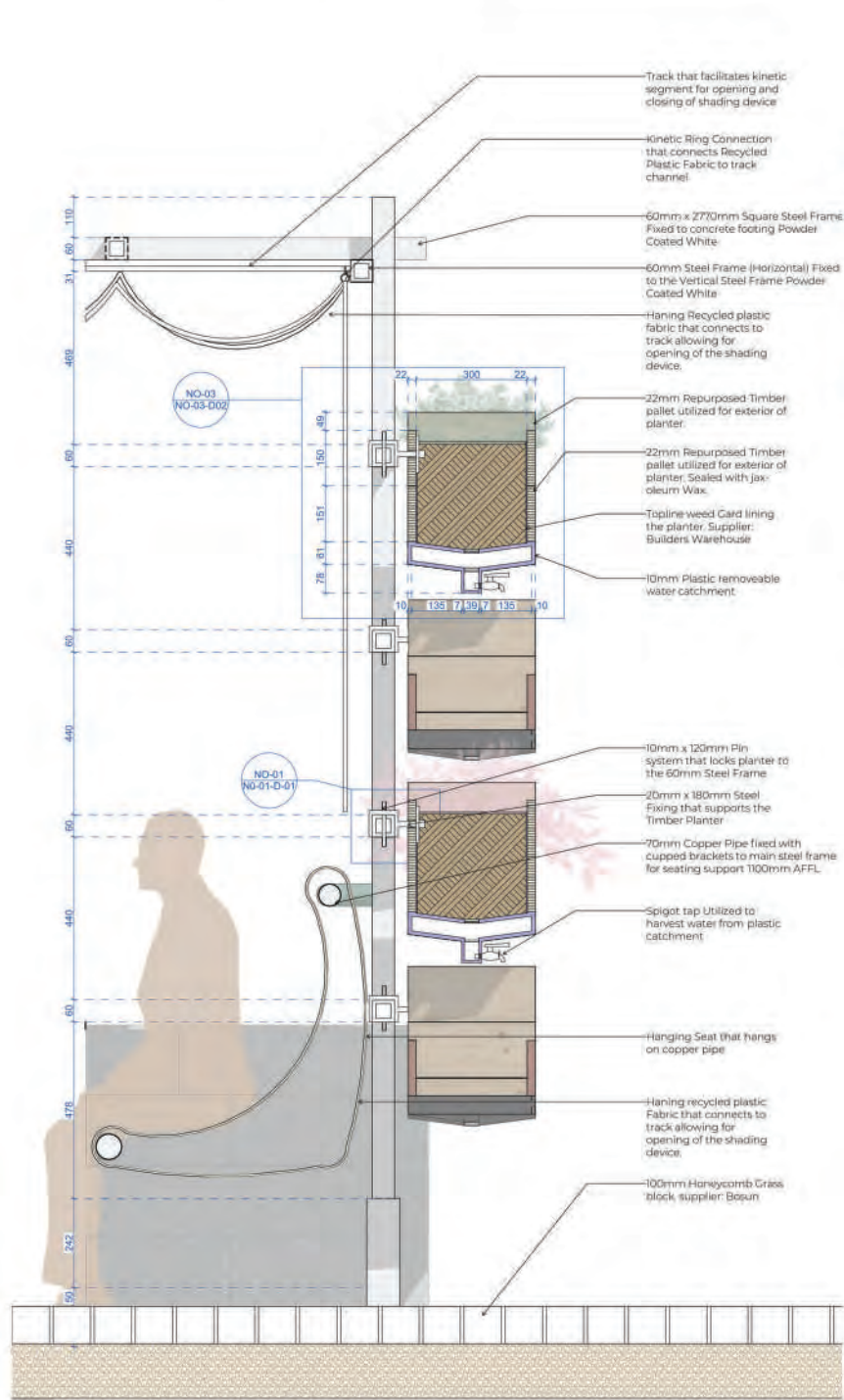
(Botes 2024)





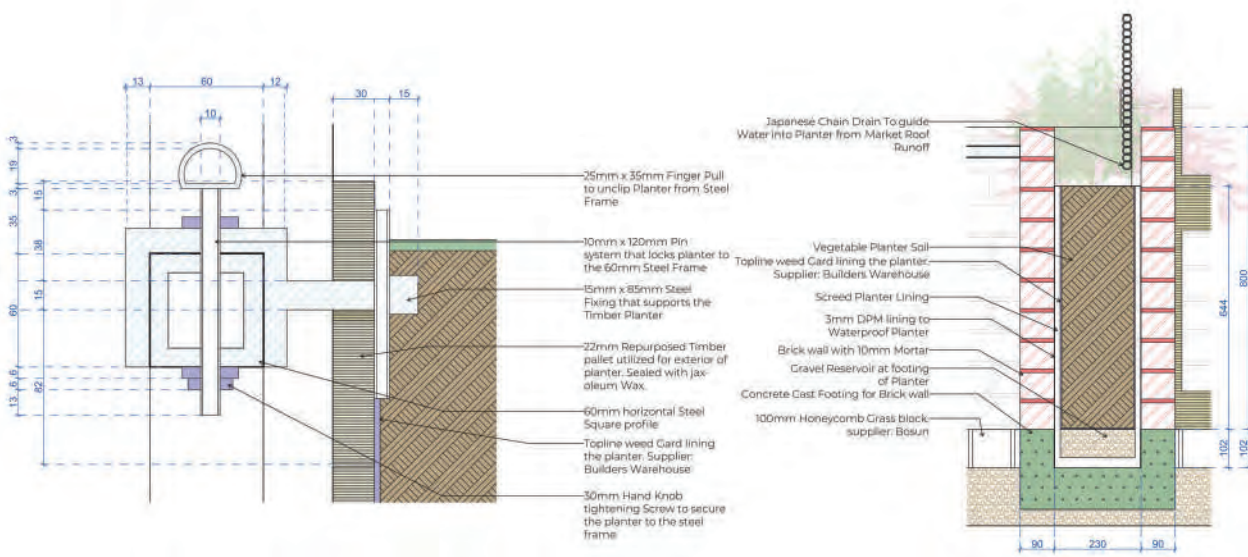
SECTION 02

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SECTION 01

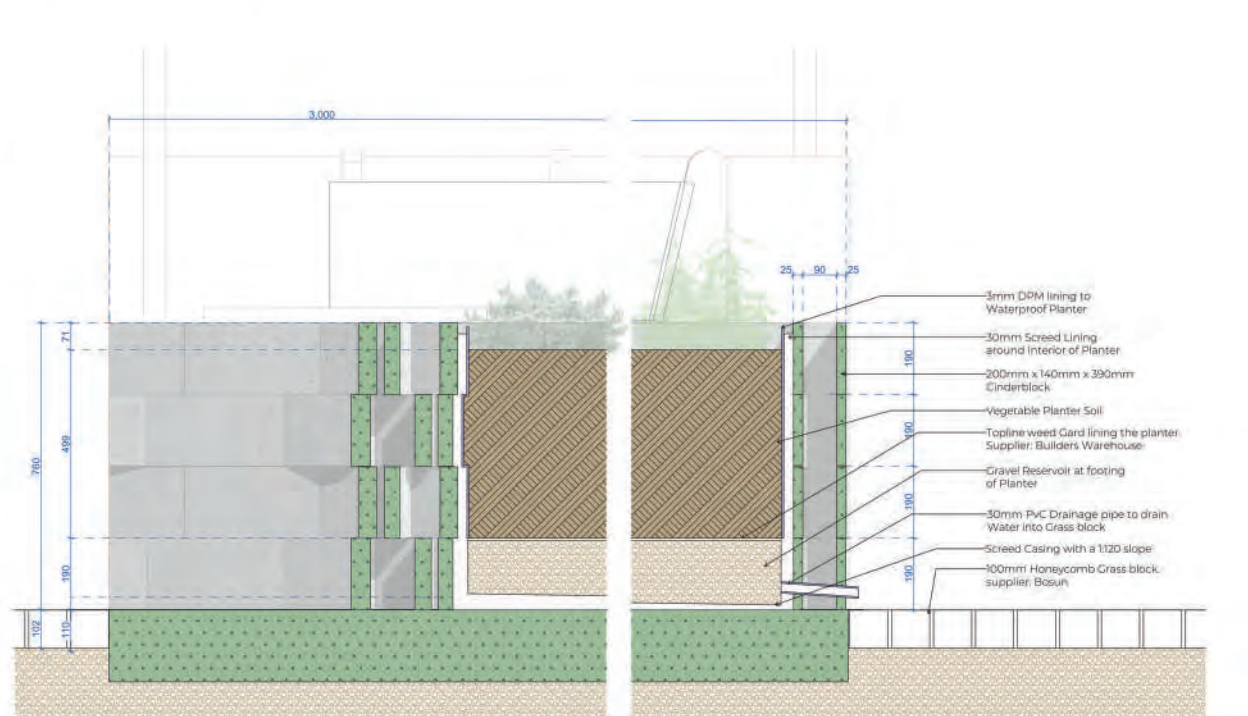
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NO-01-D01

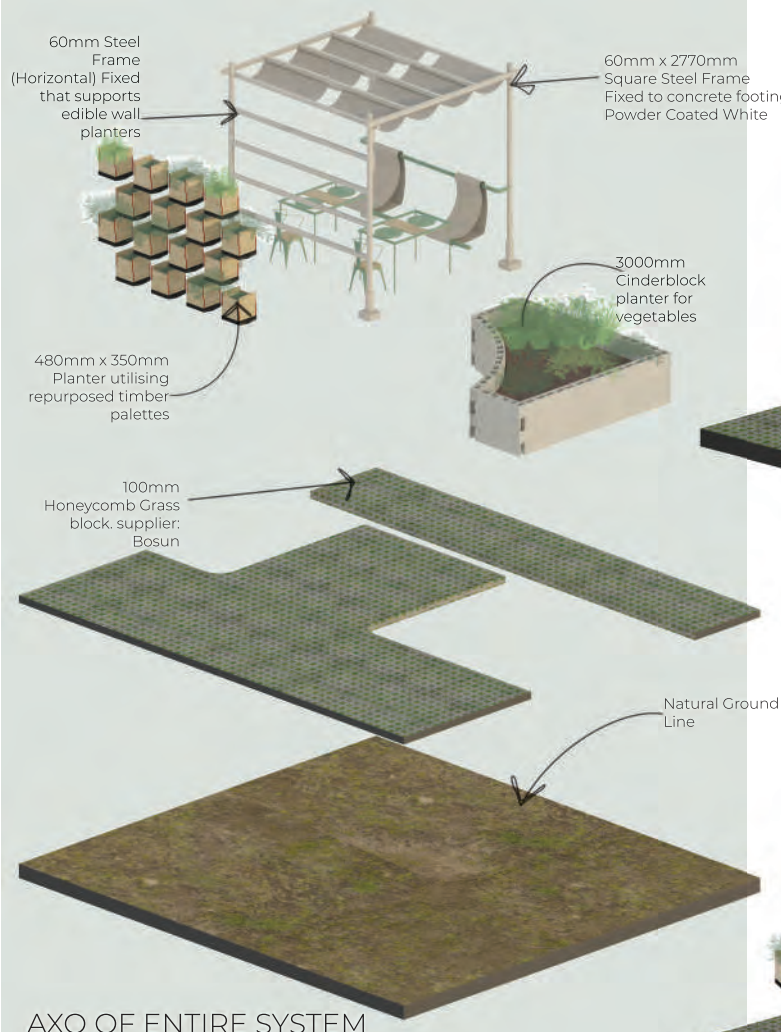
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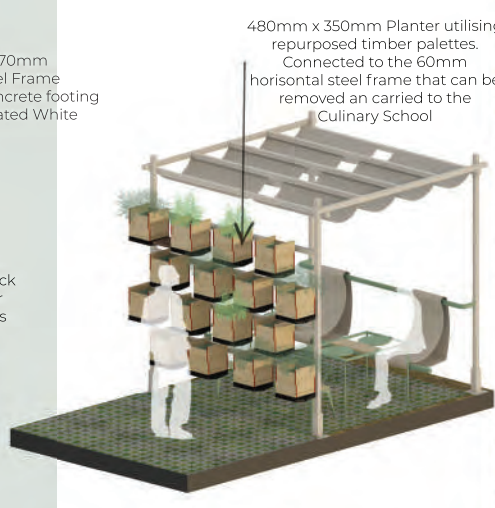


SECTION 03

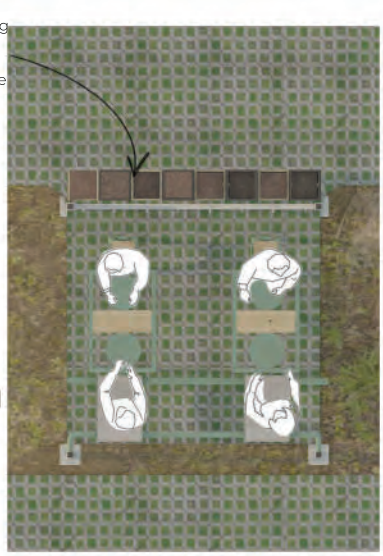
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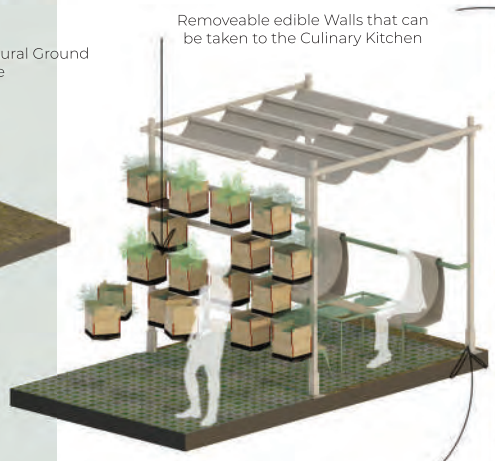
AXO OF ENTIRE SYSTEM



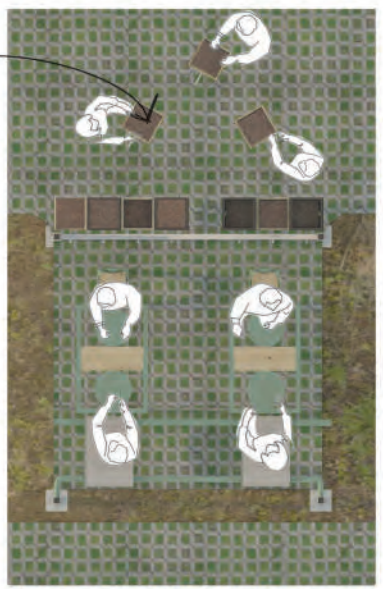
EDIBLE WALLS V01



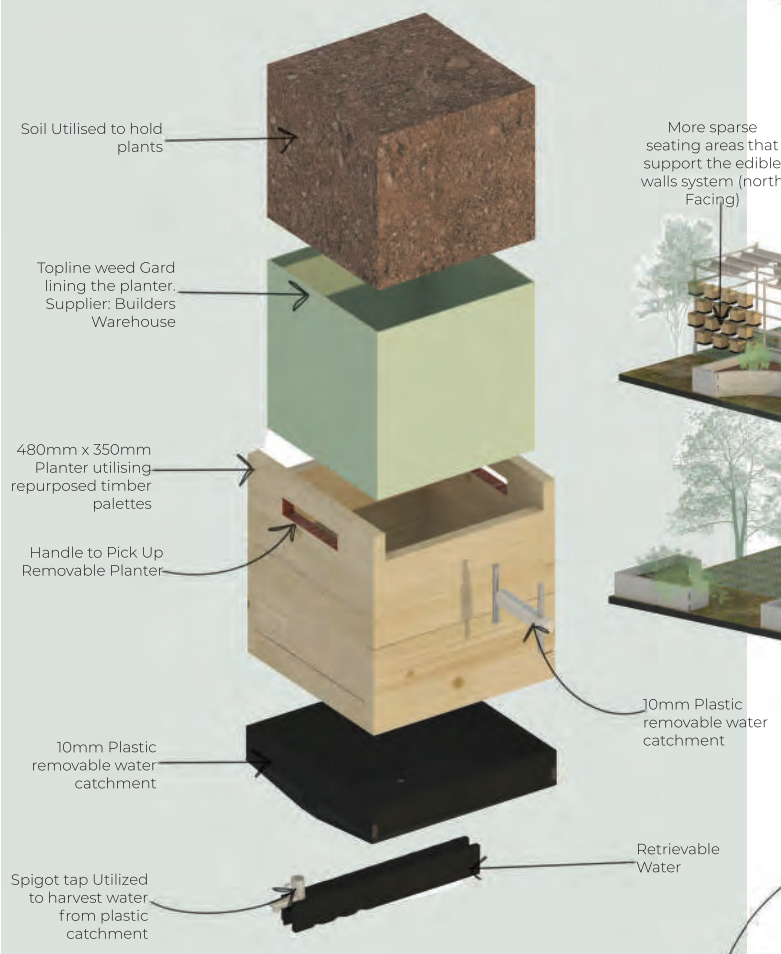
PLAN



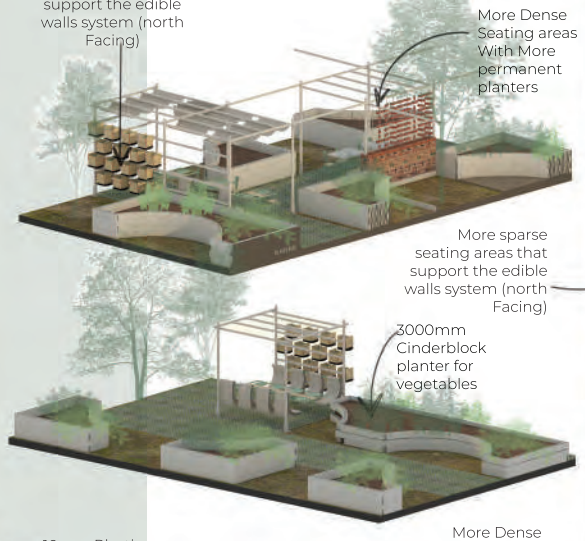
EDIBLE WALLS V02



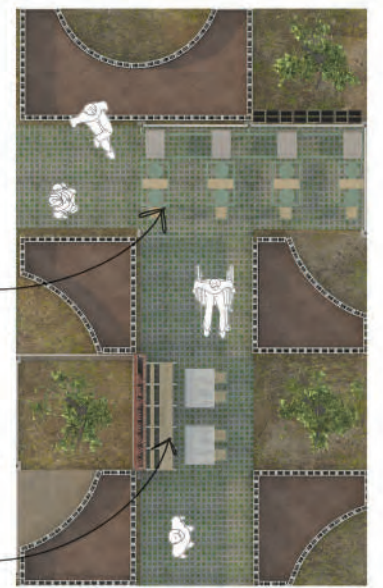
PLAN



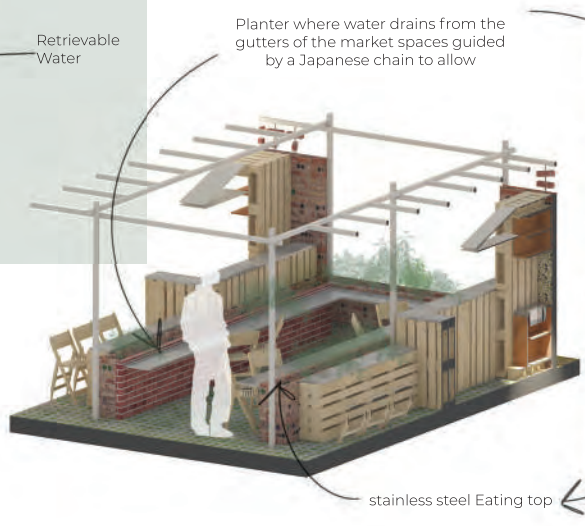
AXO OF EDIBLE WALL
AXONOMETRIC



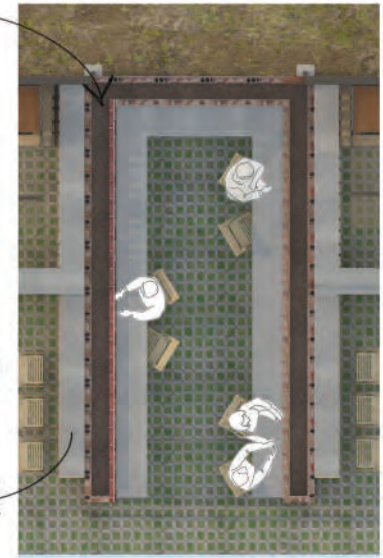
PLANTERS V01



PLAN



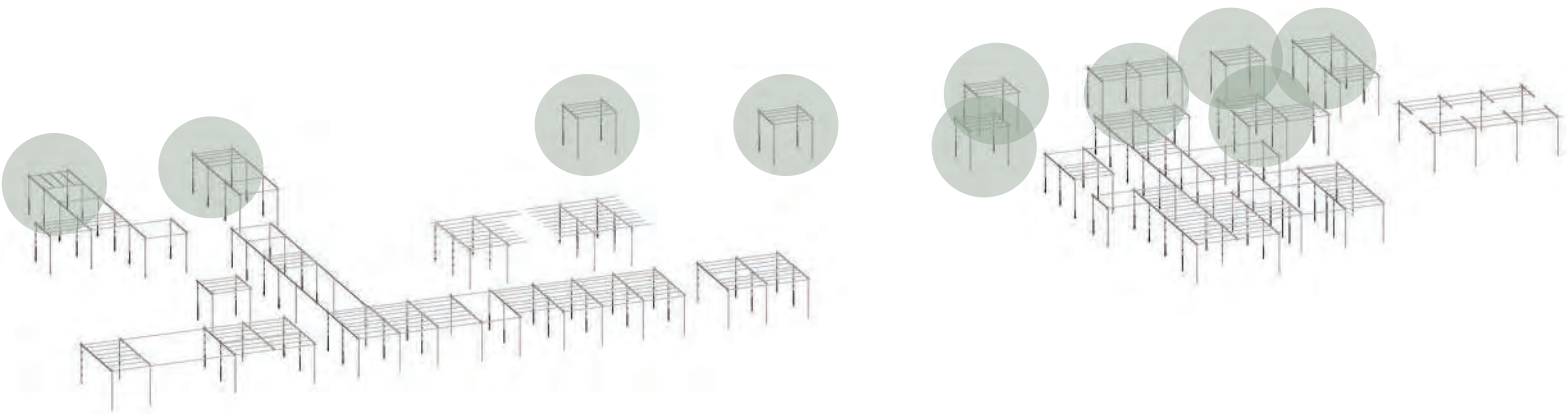
PLANTERS V02
SCENARIOS & USAGE



PLAN

The edible walls support the intangible programmes of skills and knowledge exchange through teaching the culinary students how to grow vegetables. It also supports the intangible programme of a sense of belonging since the community possibly feels that they contribute to the site by growing the vegetables. The growth node also allows for generation of financial income since a bartering system is put in place.

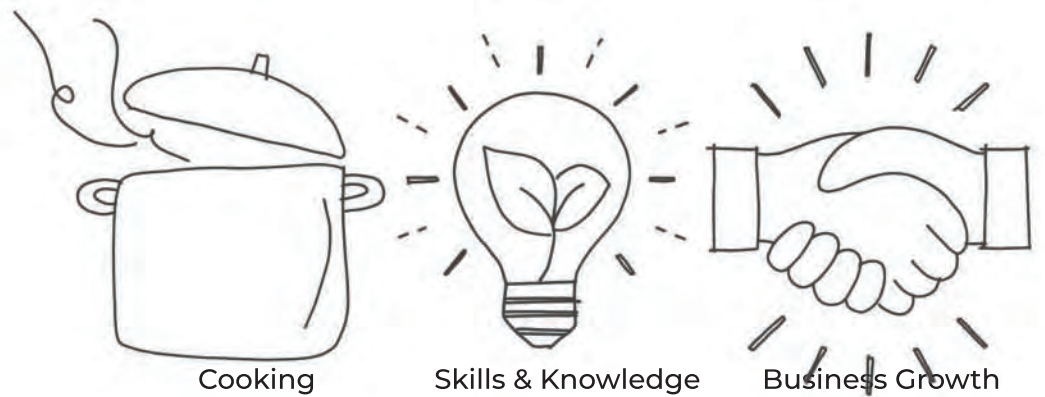
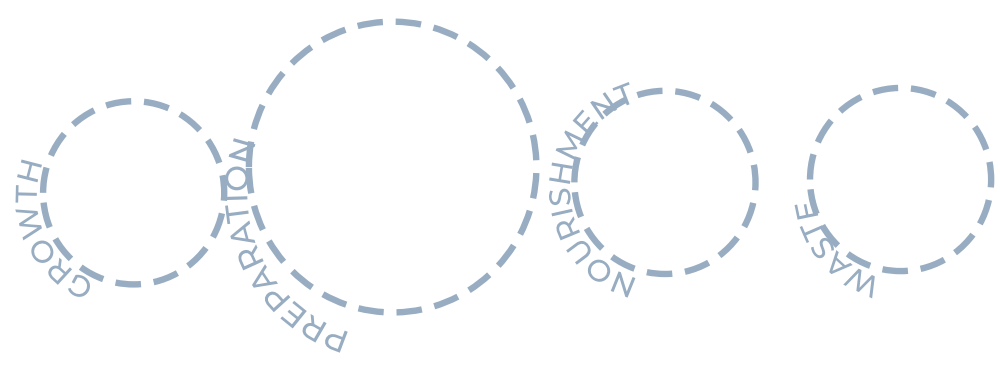
INTENTION OF NODE



CONNECTION TO SYSTEM

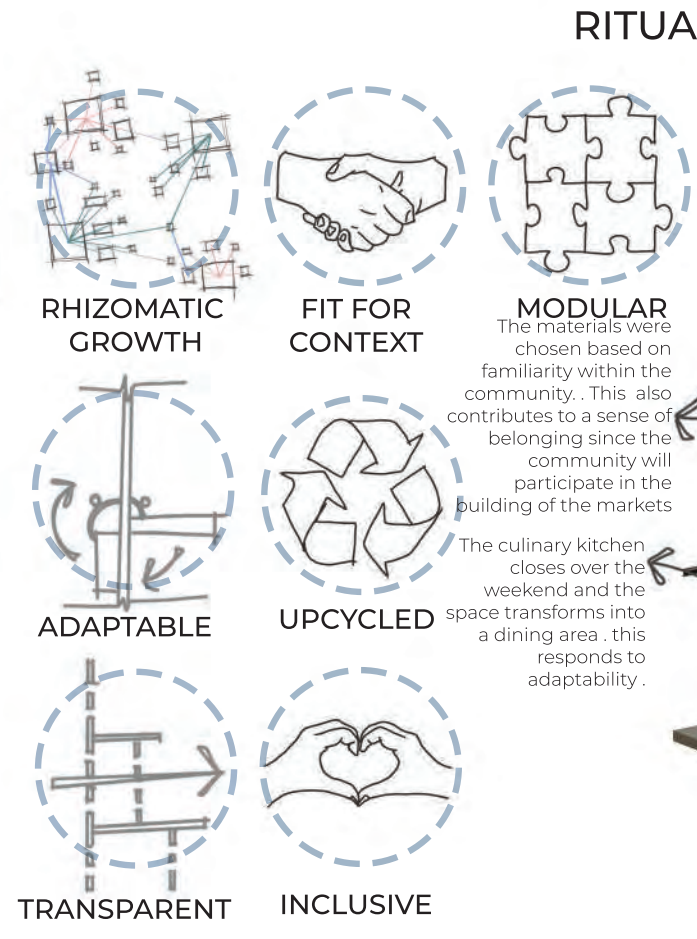
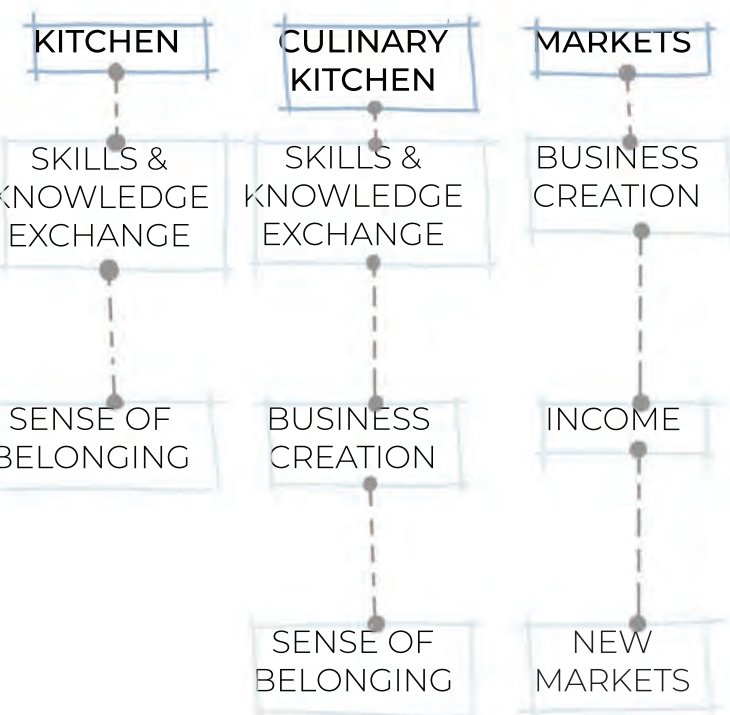
NODE 1 : GROWTH SCENARIOS & AXONOMETRIC



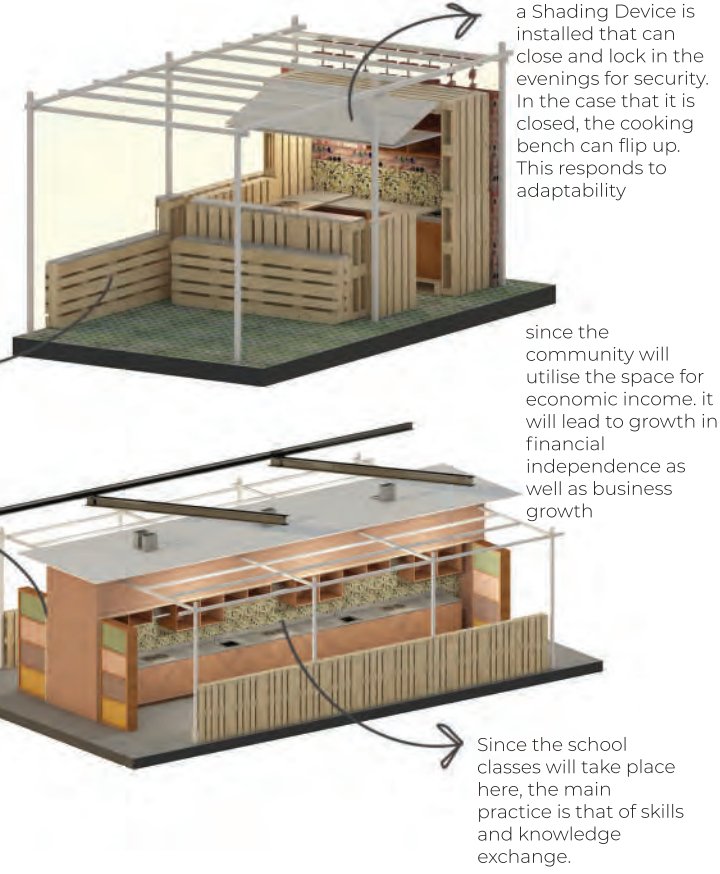


Cooking Skills & Knowledge Business Growth

CIRCULAR SYSTEM



RITUALS CONNECTED WITH NODE



FIRST & SECOND ORDER MEANING

CHARACTERISTICS

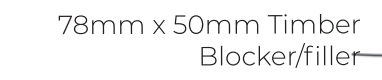
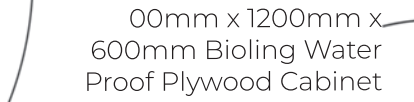
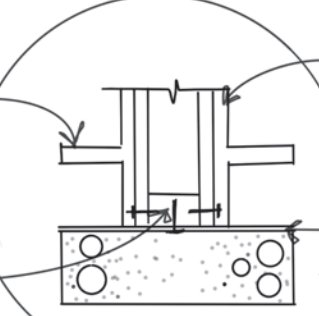
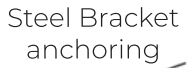
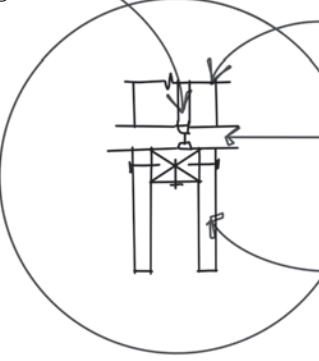
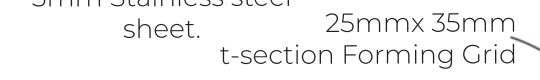
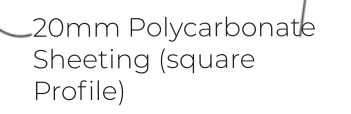
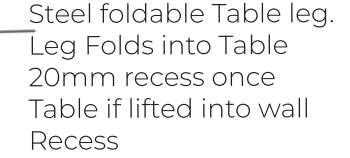
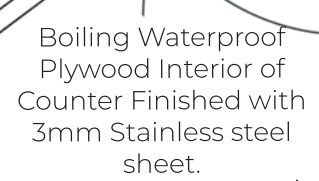
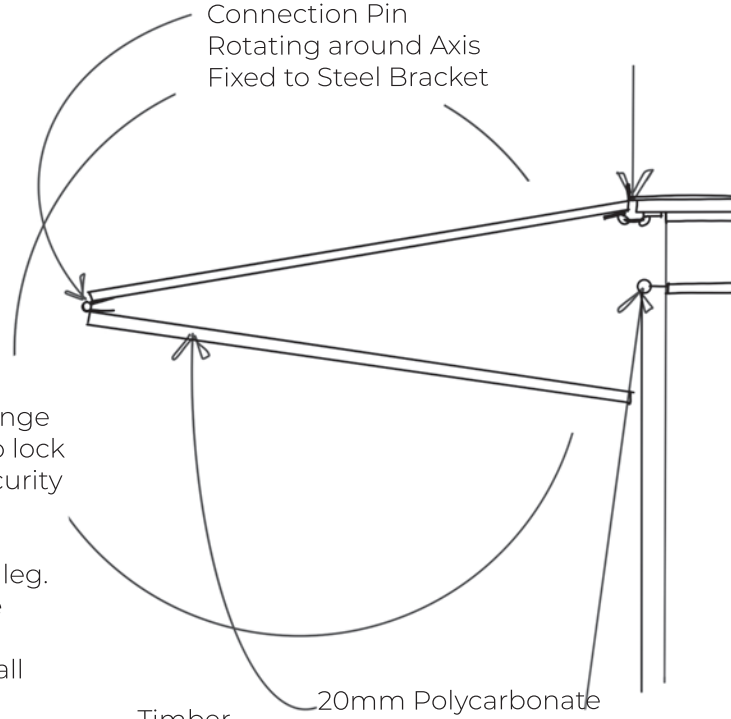
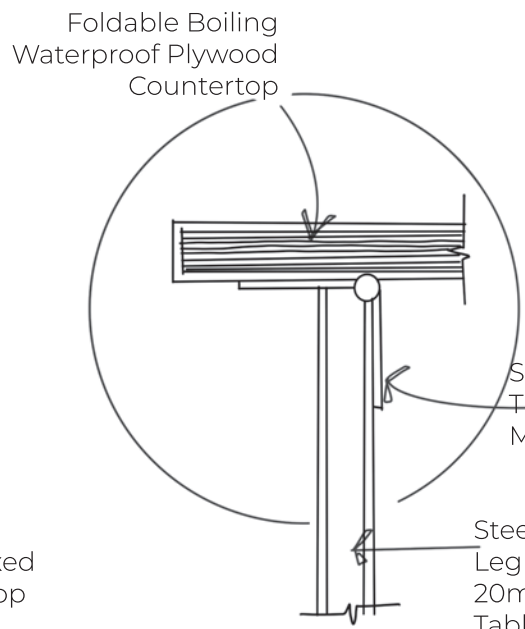
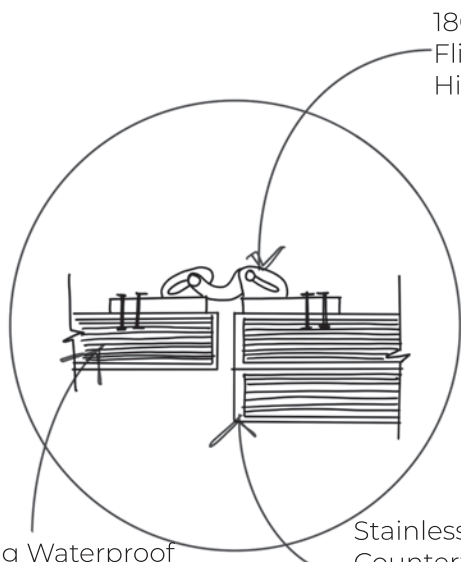
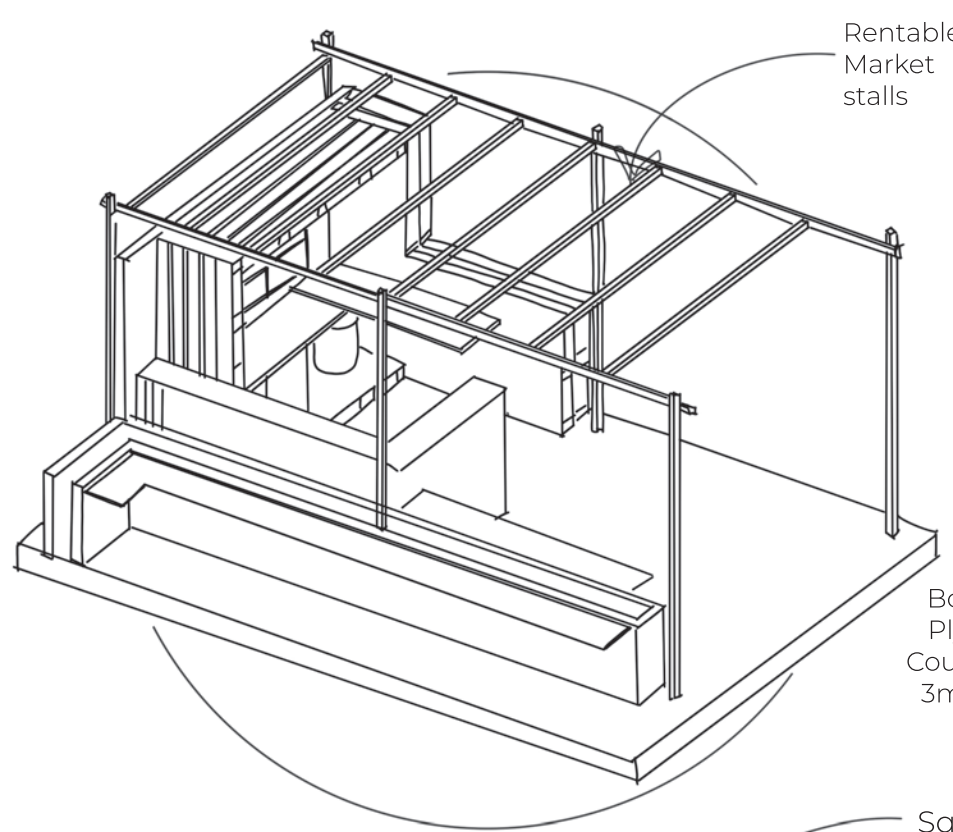
RESPONSE TO TECHNICAL QUESTION

DRAWING	RESEARCH	CAD MODELLING	DETAILING	MAQUETTE TESTING	OVERALL CONTEXT	WRITTEN CONCLUSION	CONCLUSION
	 (MetaForm 2024) LOUVRE SHADING DEVICE				IN THE OVERALL CONTEXT THE SHADING DEVICE SUPPORTS ADAPTABILITY AND COMFORT IN THE RENTABLE MARKETS. HOWEVER, THE MARKETS WILL BE UTILISED EVERY DAY FOR THE WHOLE WEEK AND SINCE SERVICES ARE PART OF THE MARKETS, IT HAS TO BE PROTECTED FROM WATER, THESE SHADING DEVICES ARE NOT WATERTIGHT THUS ITS FUNCTION OF NEW MARKETS AND INCOME CREATION WILL NOT BE SUPPORTED EFFICIENTLY.	THE SHADING DEVICE 1 IS MORE APPROPRIATE FOR THE SEATING AREAS SINCE IT WILL NOT BE USED AS MUCH AS THE MARKETS. THE MARKETS ALSO HAVE SERVICES THAT HAVE TO BE PROTECTED FROM RAINWATER, THUS THIS SHADING DEVICE WILL NOT WORK EFFICIENTLY.	
	 (Angelopoulou 2020) LOUVRE PANELS			N/A	THIS SHADING DEVICE SUPPORTS ADAPTABILITY SINCE IT ACTS AS A SHADING DEVICE THAT IS WATERTIGHT, AS WELL AS A SECURITY SYSTEM THAT CAN CLOSE AND LOCK UP AT NIGHT. THIS PROTECTS THE SERVICES FROM WATER THUS IT SUPPORTS THE INTANGIBLE PROGRAMMES OF INCOME CREATION AS WELL AS NEW MARKETS.	THIS SHADING DEVICE PROVIDES SHADE AS WELL AS PROTECTION FROM THE ELEMENTS AND SAFETY SINCE IT CAN LOCK UP IN THE EVENINGS. THUS THIS SHADING DEVICE IS MORE APPROPRIATE IN THE CONTEXT OF THE MARKET SPACES.	
	 (Decorhandles 2024) TABLE FOLDING JOINTS	N/A		N/A	THE FOLDING TABLE CONCEPT IS FIT BECAUSE IT SUPPORTS ADAPTABILITY IN TERMS OF LOCKING UP THE SYSTEM IN THE EVENING; HOWEVER, FOR A TABLE THAT SUPPORTS A GAS BURNER, A MORE COMPLEX HINGE IS REQUIRED. IT IS ALSO REQUIRED TO BE CONSISTENT WITH ROTATING JOINTS THROUGHOUT THE SITE.	IN TERMS OF ADAPTABILITY, THE JOINT IS SUFFICIENT HOWEVER IN TERMS OF THE DESIGN, THE JOINT IS NOT CONSISTENT WITH THE JOINT USED FOR COMPLEX SYSTEMS THROUGHOUT THE SITE.	
	 (Amazon 2024) 180 DEGREE FLIP TOP HINGE	N/A		N/A	THIS JOINT IS UTILISED THROUGHOUT THE SITE IN COMPLEX CONNECTIONS, IN TERMS OF THE CONSISTENCY OF THE DESIGN IT IS THE MORE FAVORABLE OPTION TO CHOOSE. IT SUPPORTS ADAPTABILITY BECAUSE IT ENABLES TABLE TO BE LOCKED UP AND SECURED AND IT CAN FOLD DOWN TO CREATE MORE COUNTERSPACE.	THIS JOINT IS A GOOD CHOICE SINCE IT ALLOWS FOR ADAPTABILITY AND IT SUPPORTS THE INTANGIBLE OF CREATING NEW MARKETS AND INCOME BY PREPARING FOOD.	

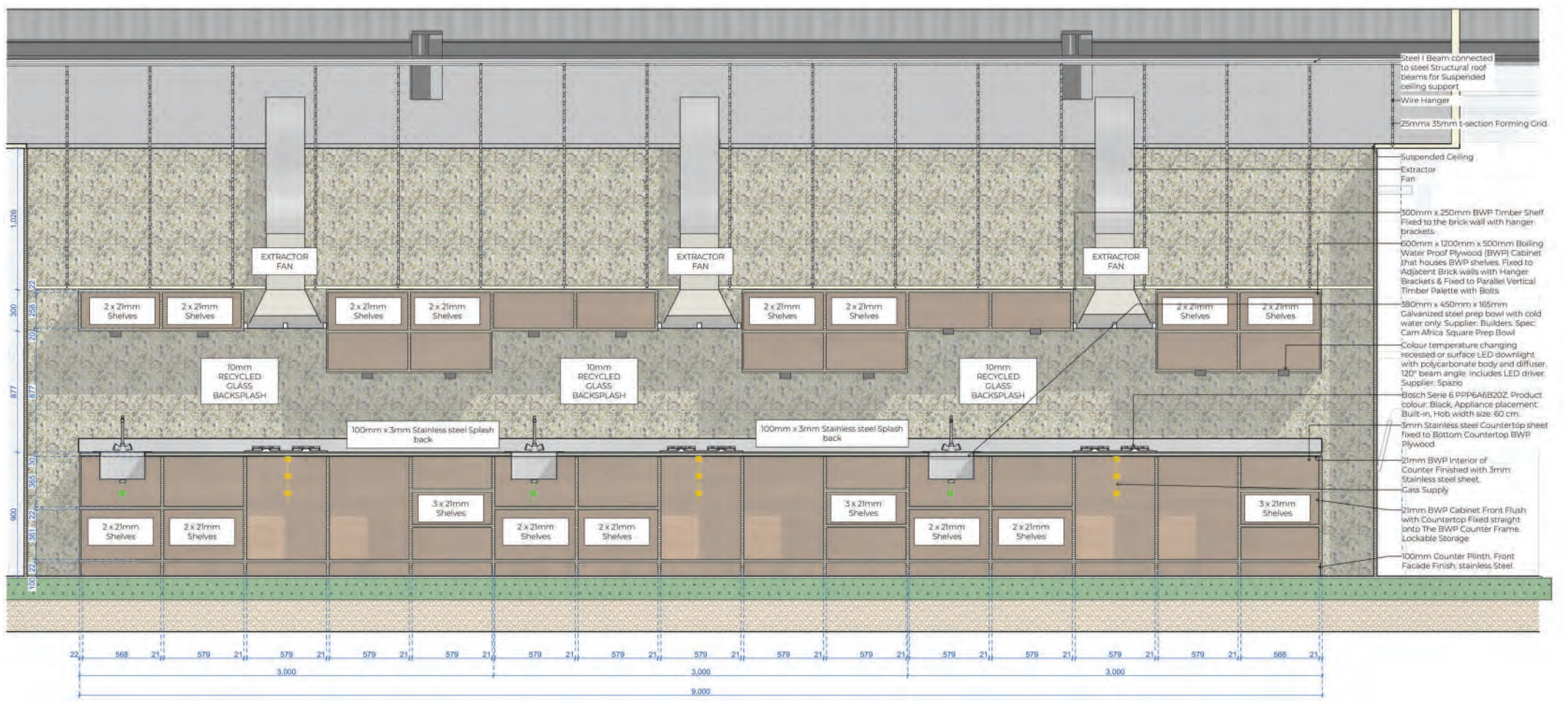
METHODOLOGICAL TESTING

NODE 2 : PREPARATION METHODOLOGICAL TESTING



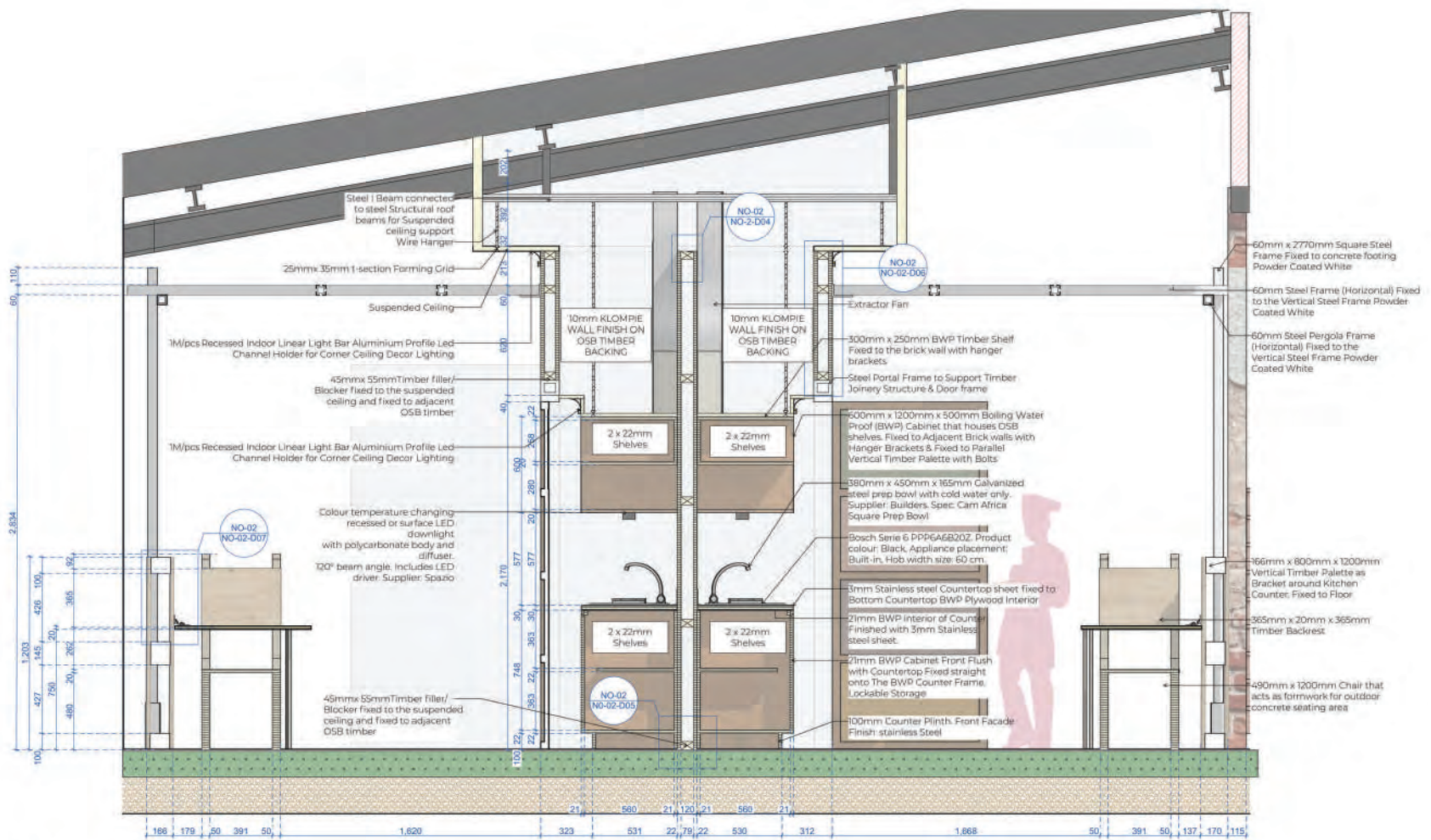


Preparation
NODE-02 DETAIL EXPLORATIONS



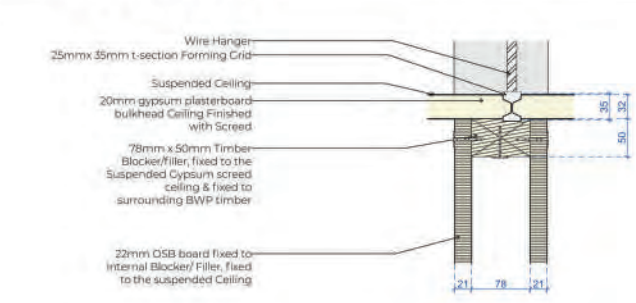
SECTION-04

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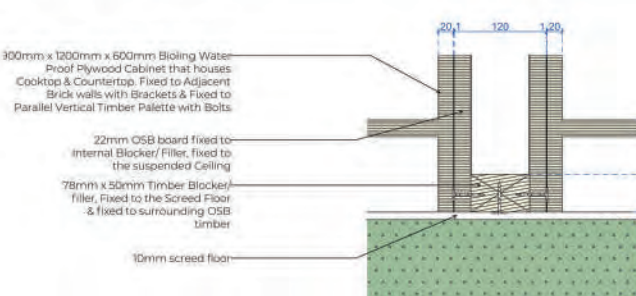
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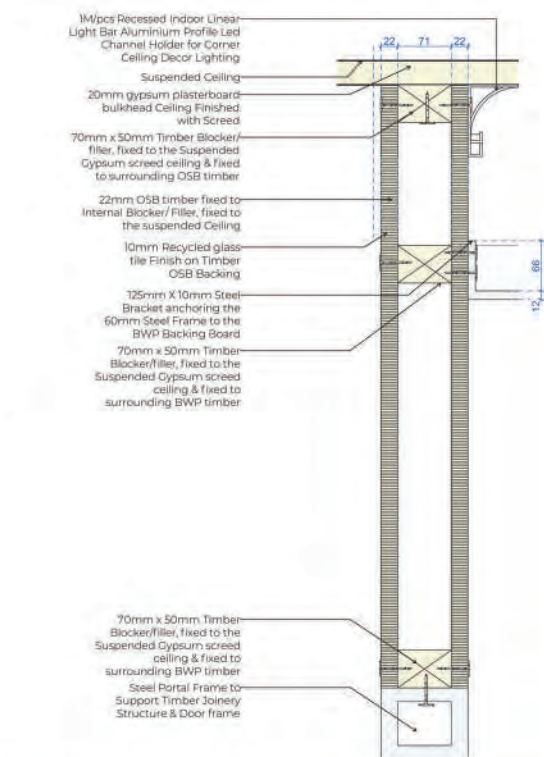
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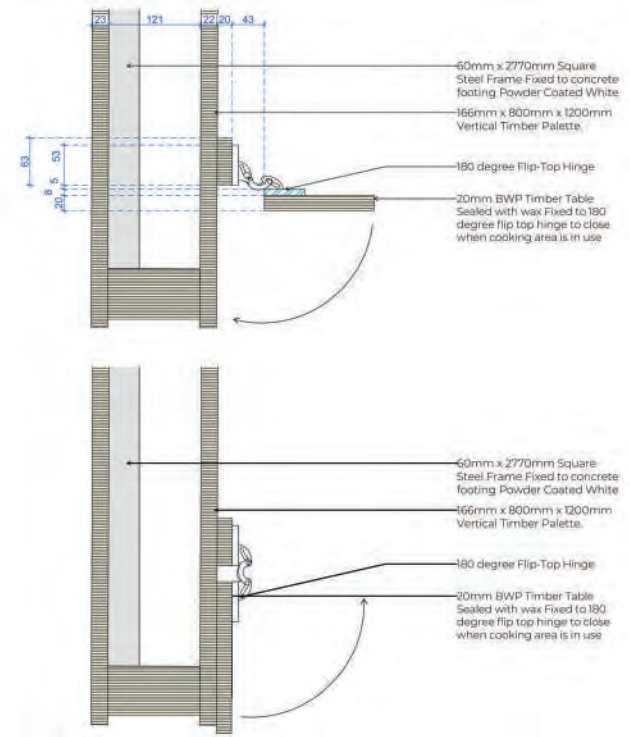
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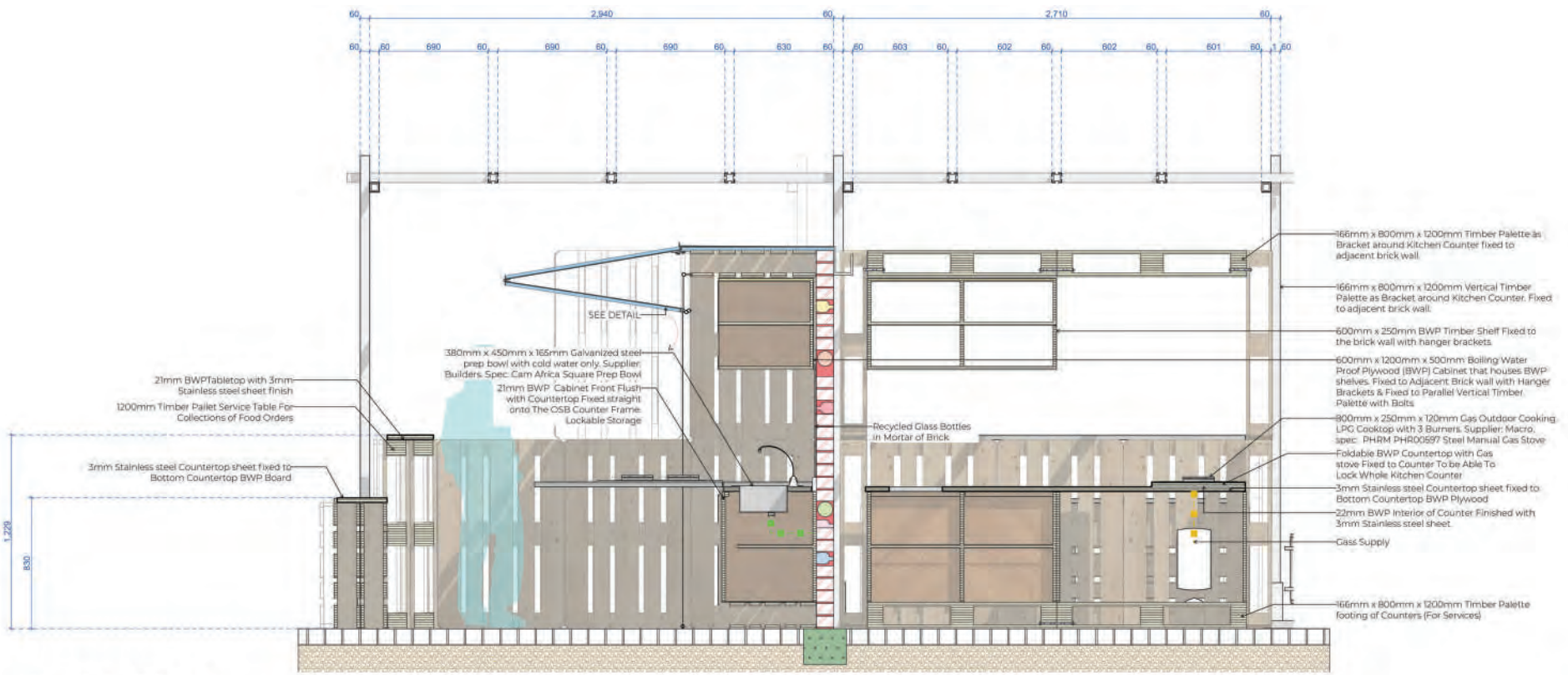
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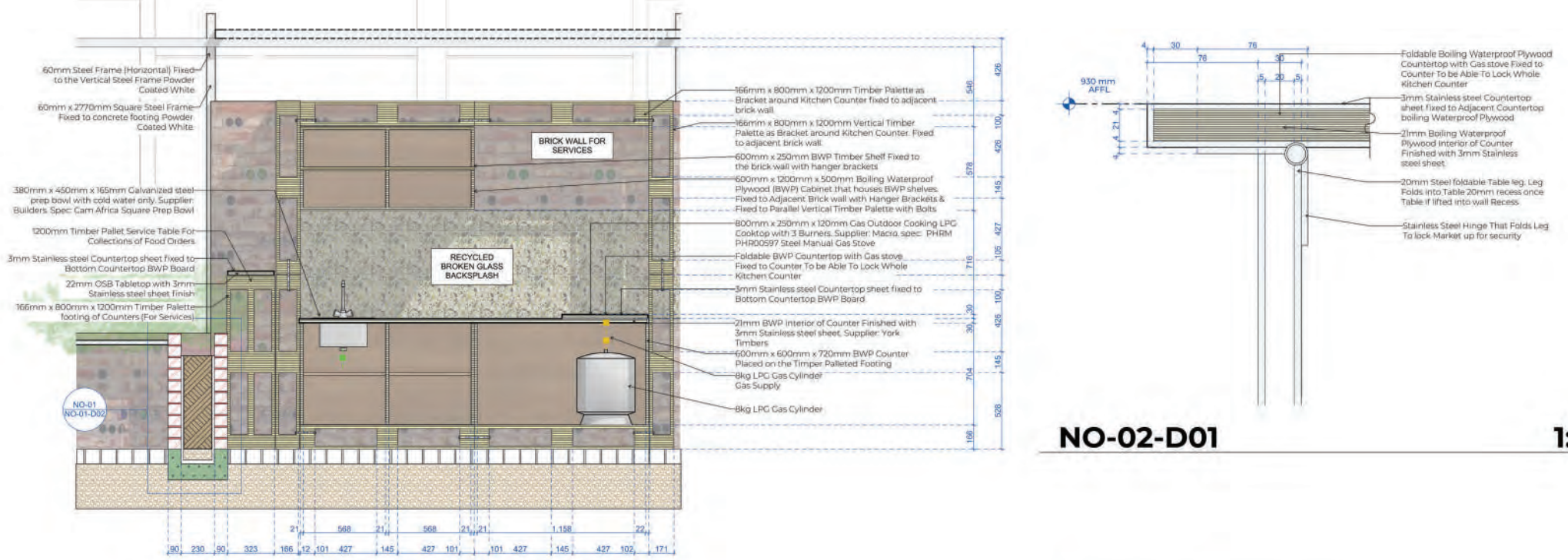
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SECTION-01

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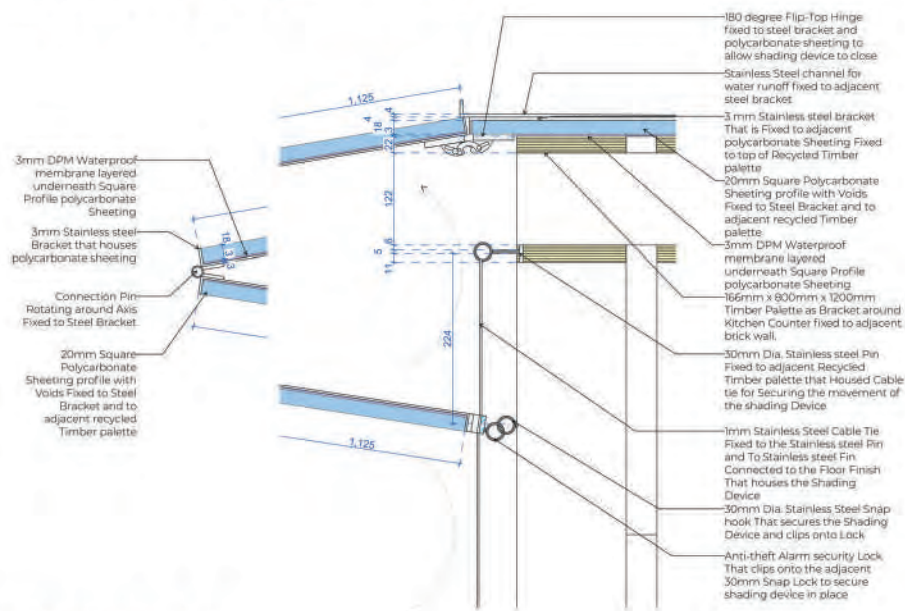


SECTION-02

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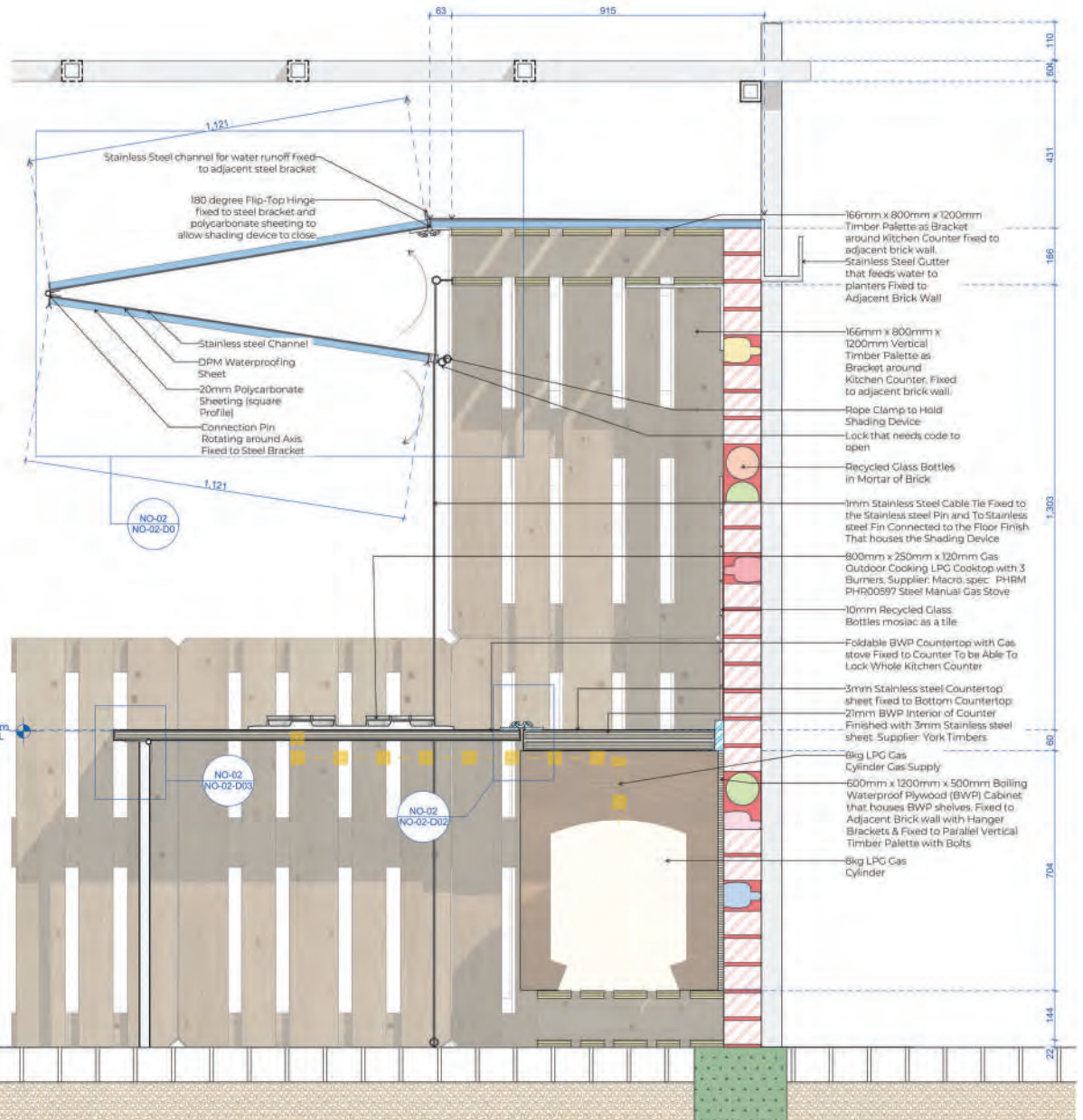
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NO-02-D02

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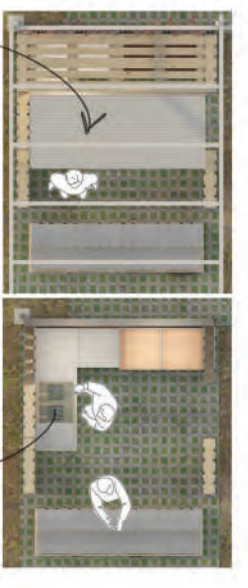
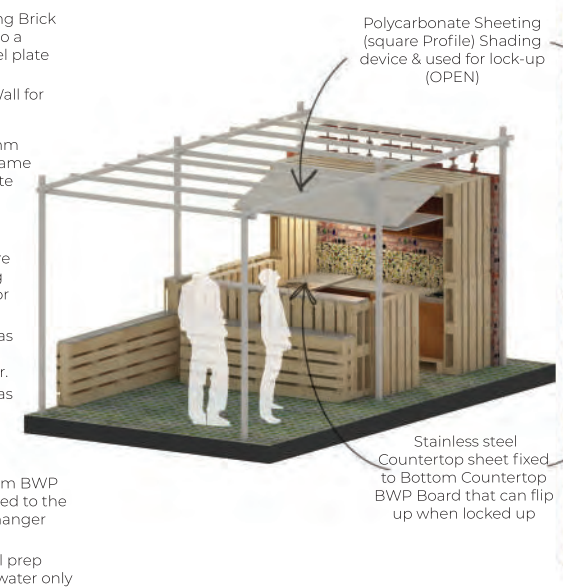
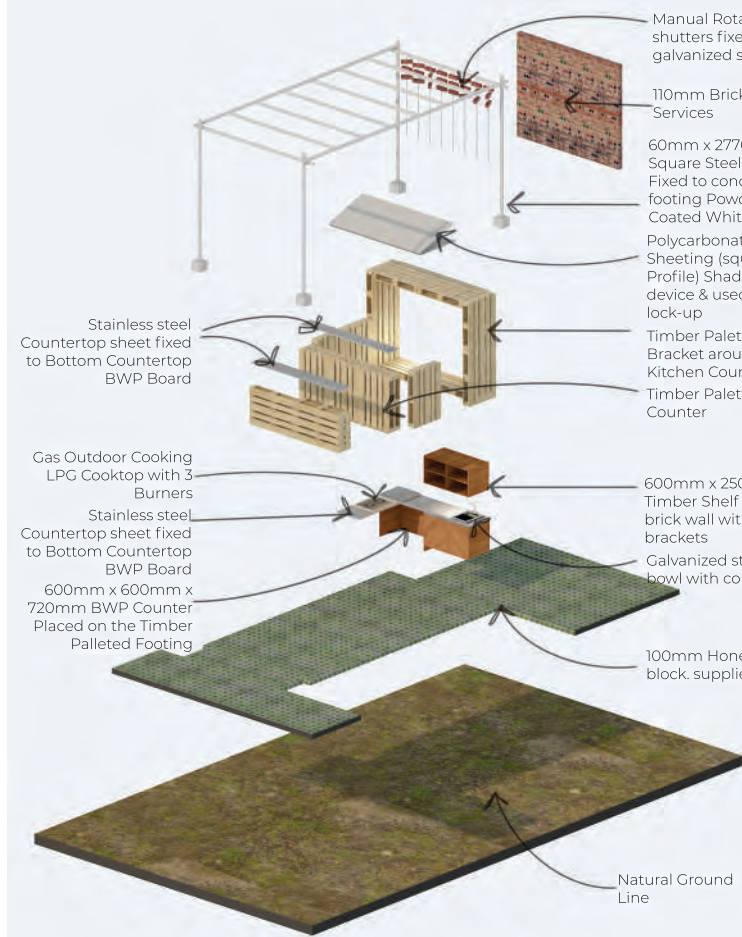


NO-02-D03

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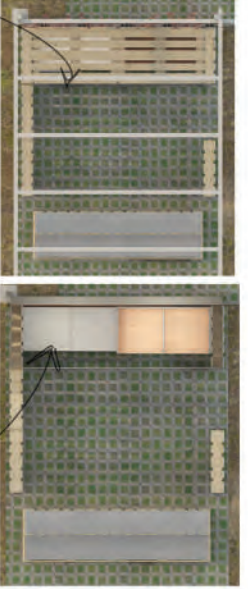
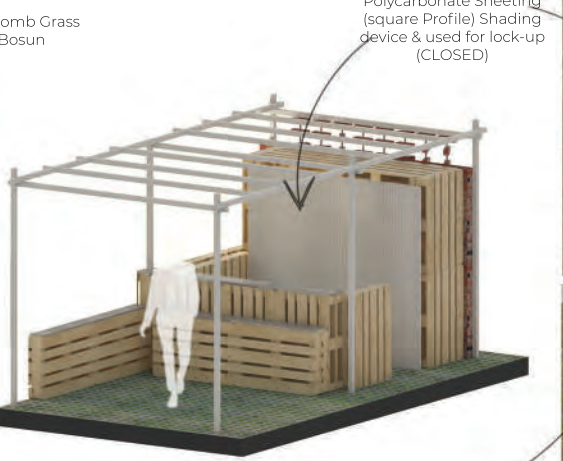
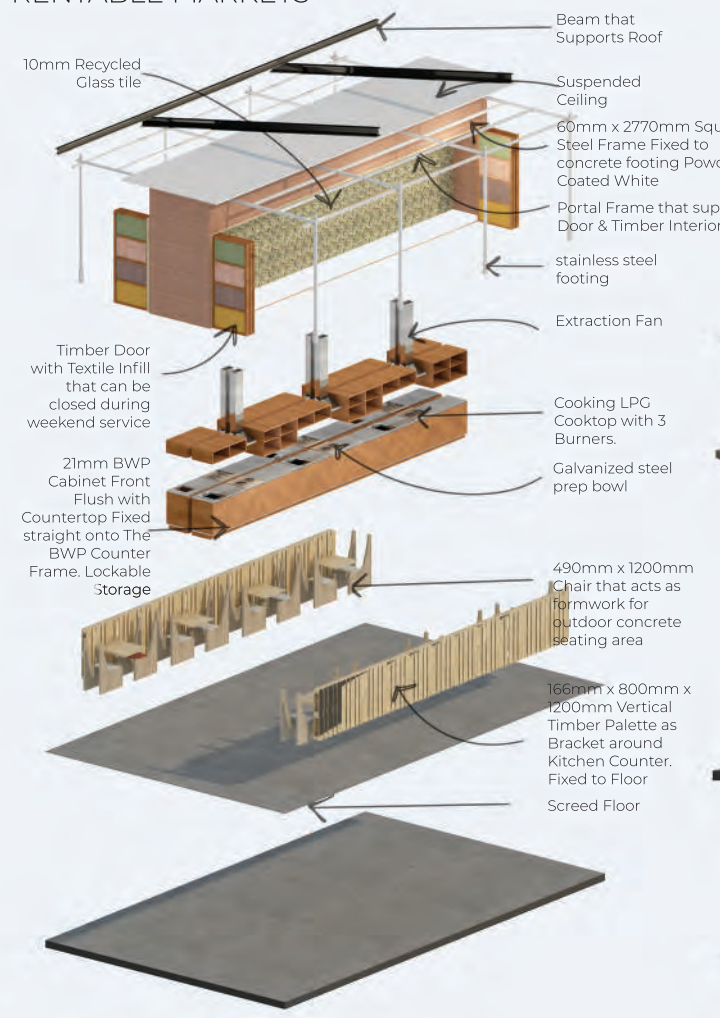
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RENTABLE MARKETS V01

RENTABLE MARKETS

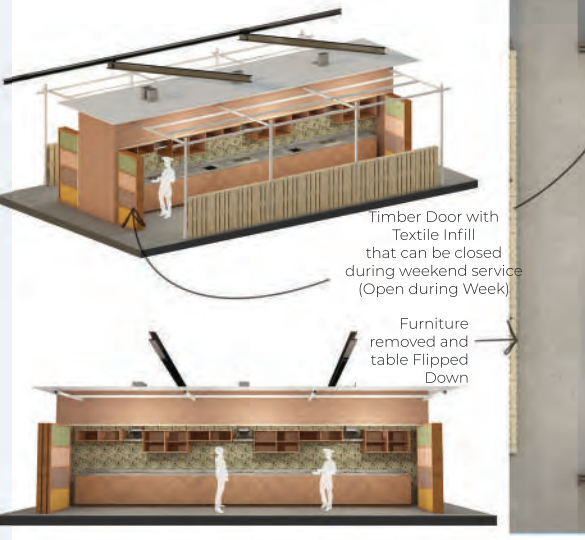


RENTABLE MARKETS V02

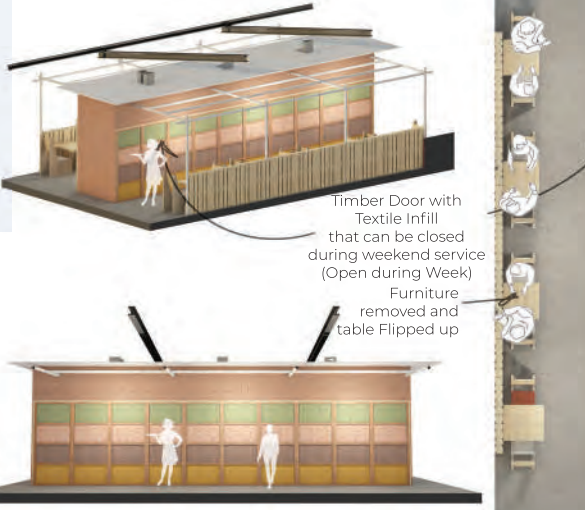
CULINARY KITCHEN AXONOMETRIC

The tangible culinary kitchen supports the intangible programmes of skills and knowledge exchange by teaching the students about farm to fork cooking practices and it allows for income, business creation and new markets by inviting individuals who do not live in Melusi to invest in the Node. The rentable markets that are supported by a bartering system supports the intangible programmes of business creation since individuals from the community can rent the markets for business creation thus supporting the intangible programmes of new markets and income creation.

INTENTION OF NODE

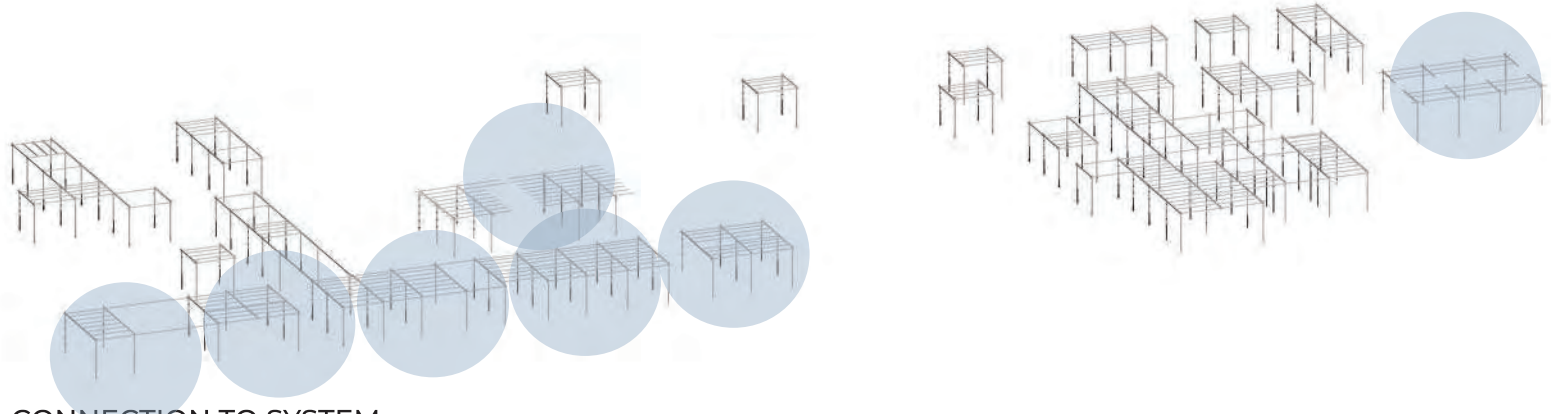


CULINARY KITCHEN V01



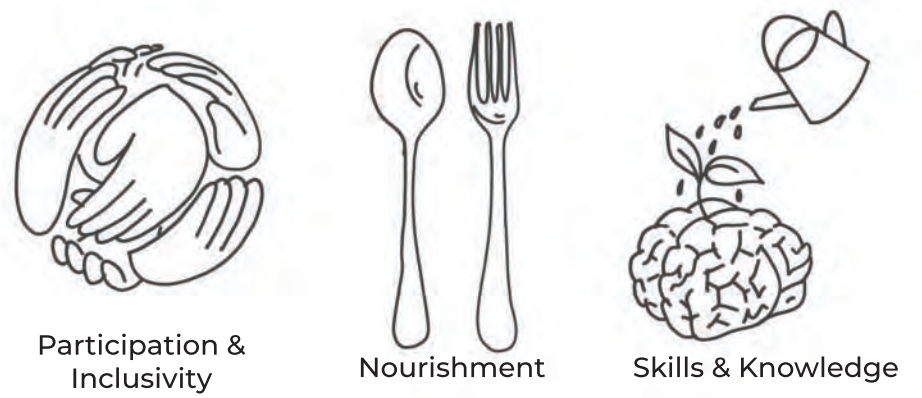
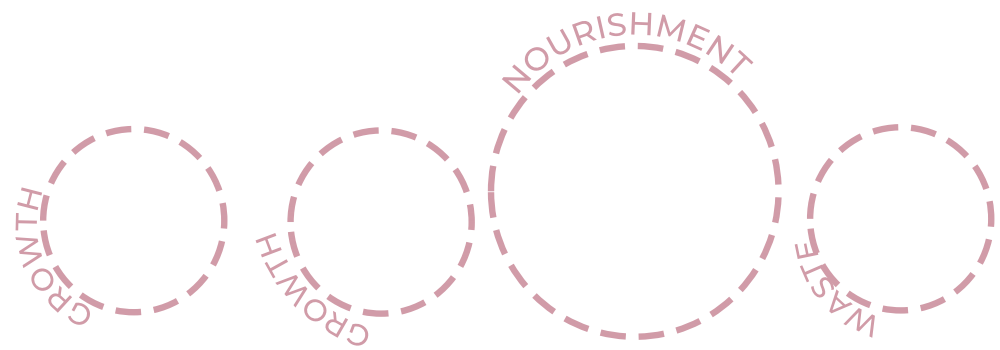
CULINARY KITCHEN V02

SCENARIOS & USAGE



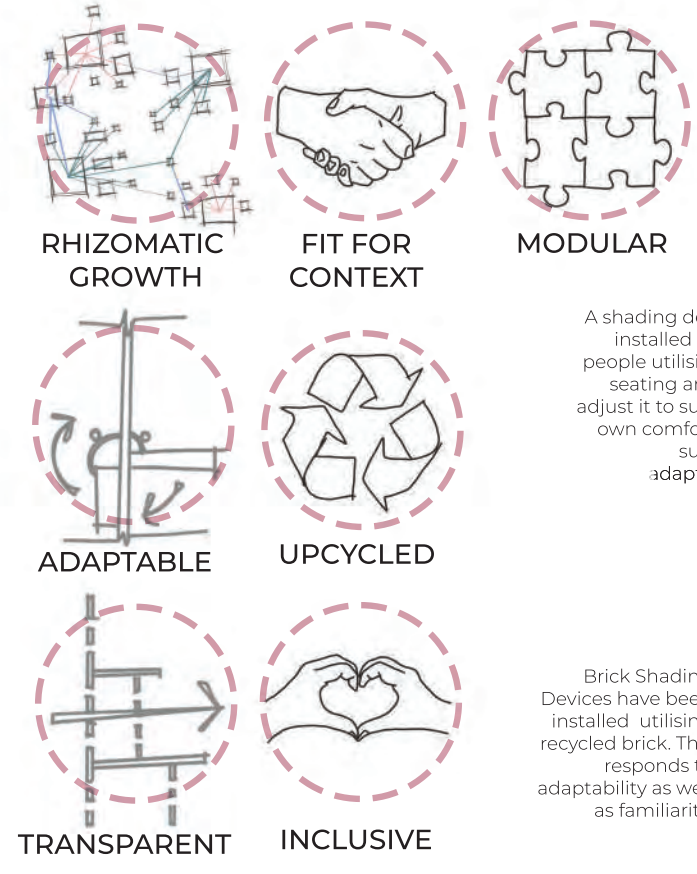
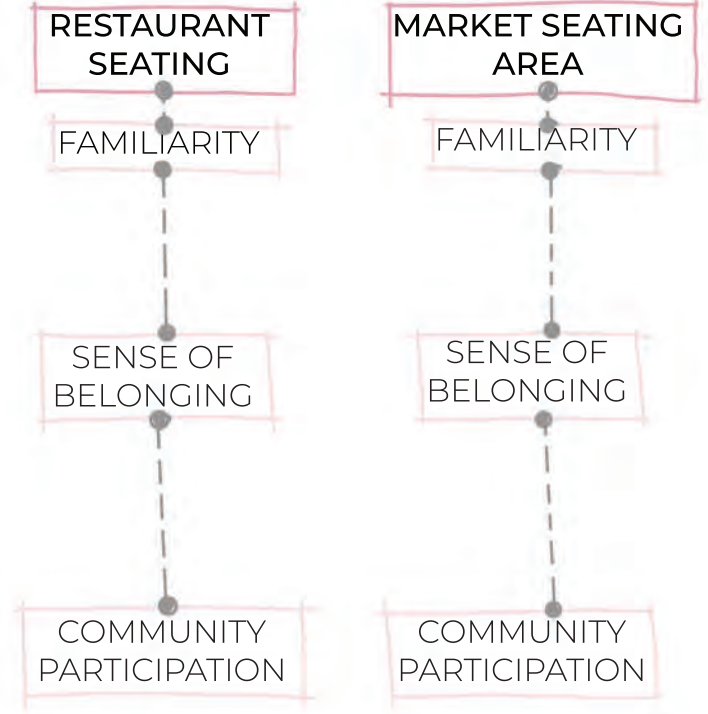
NODE 2: PREPARATION SCENARIOS & AXONOMETRIC



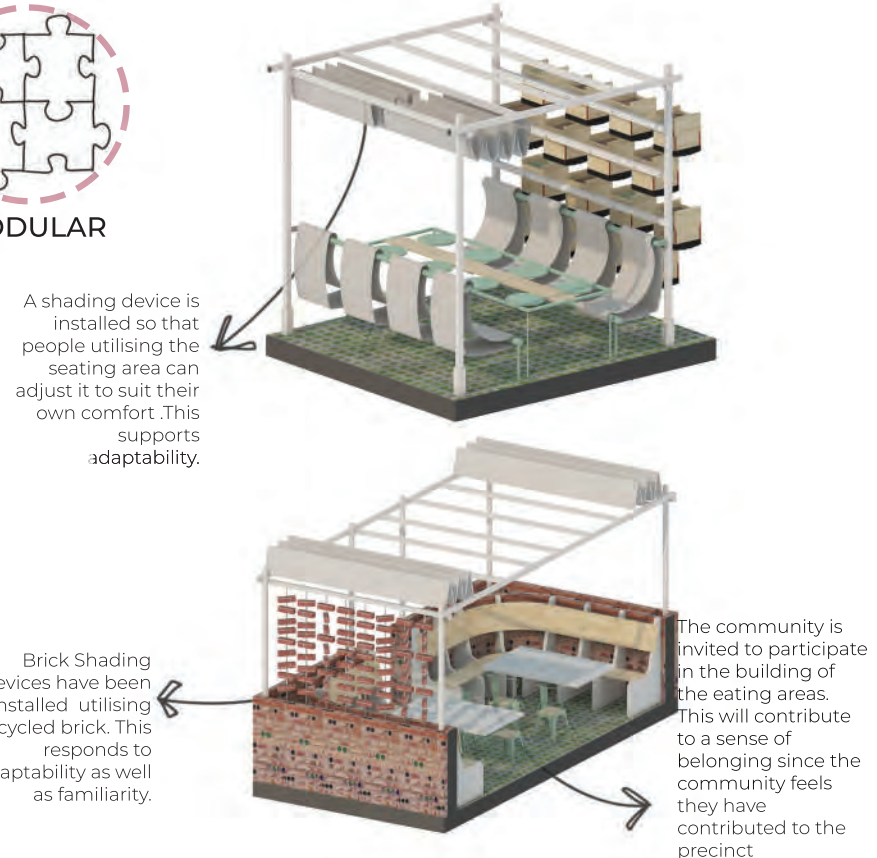


Participation & Inclusivity Nourishment Skills & Knowledge

CIRCULAR SYSTEM



RITUALS CONNECTED WITH NODE



FIRST & SECOND ORDER MEANING

CHARACTERISTICS

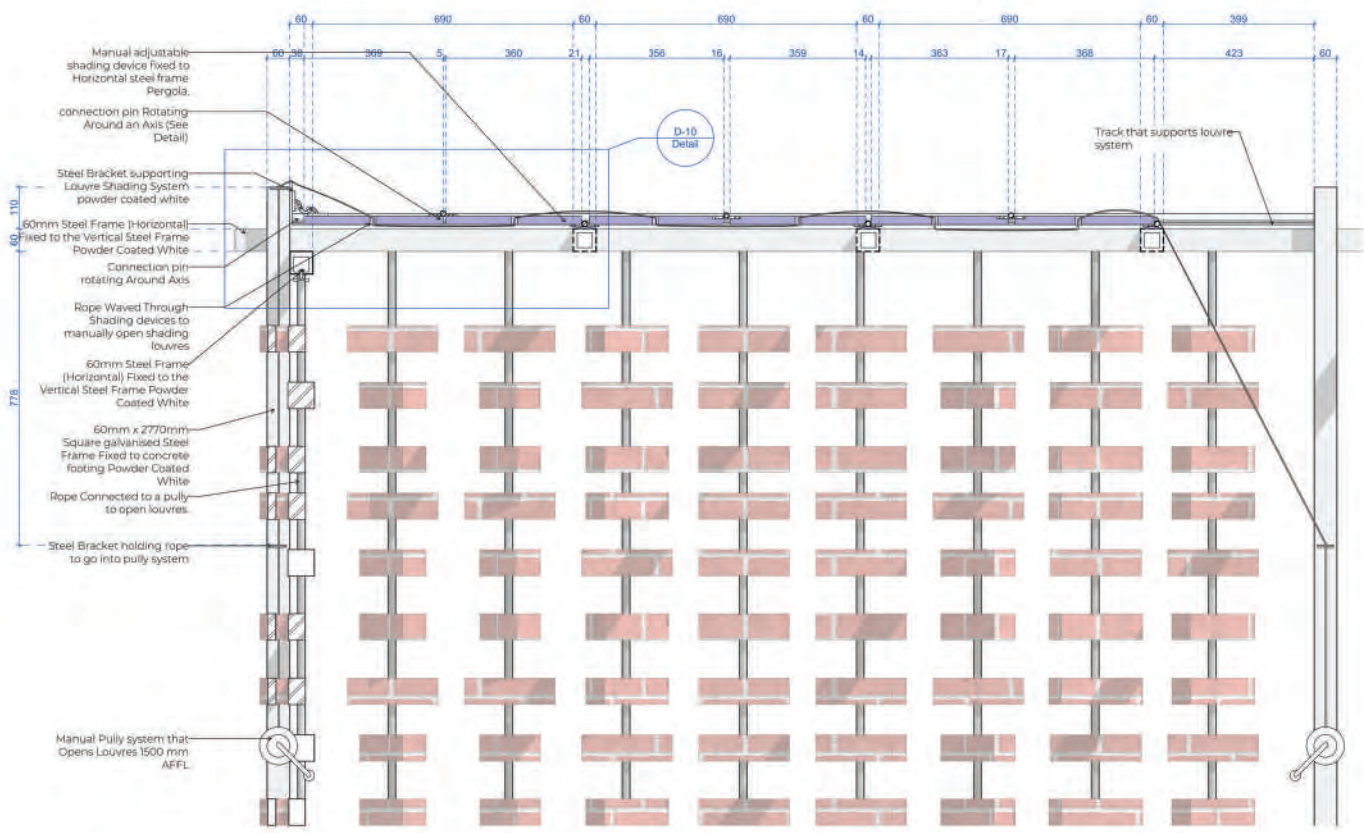
RESPONSE TO TECHNICAL QUESTION

DRAWING	RESEARCH	CAD MODELLING	DETAILING	MAQUETTE TESTING	OVERALL CONTEXT	WRITTEN CONCLUSION	CONCLUSION
N/A SHADING DEVICE 1	 (MetaForm 2024) ELECTRIC SHADING DEVICE		N/A	N/A	IN THE OVERALL CONTEXT THE SHADING DEVICE SUPPORTS ADAPTABILITY AND COMFORT IN THE SEATING AREAS. IT CAN BE ADJUSTED BY THE USER TO SUIT THE USER'S COMFORT IN TERMS OF SHADING. HOWEVER, THIS ELECTRIC SHADING DEVICE IS NOT SUITABLE FOR MELUSI INFORMAL SETTLEMENT SINCE IT NEEDS ELECTRICITY TO RUN, AND MELUSI'S ACCESS TO ELECTRICITY IS LIMITED.	THE SHADING DEVICE 1 IS MORE APPROPRIATE FOR THE SEATING AREAS SINCE IT WILL NOT BE USED AS MUCH AS THE MARKETS. HOWEVER, IT IS RUN THROUGH ELECTRICITY, THUS IT NEEDS TO BE ADAPTED TO A MANUAL MANNERING SYSTEM.	
 SHADING DEVICE 2	 MANUAL PULLY SHADING DEVICE				IN THE OVERALL CONTEXT THE SHADING DEVICE SUPPORTS ADAPTABILITY AND COMFORT IN THE SEATING AREAS. IT CAN BE ADJUSTED BY THE USER TO SUIT THE USER'S COMFORT IN TERMS OF SHADING. THIS SHADING DEVICE WAS ADAPTED TO BE USED MANUALLY WITH A PULLY SYSTEM, THUS IT IS MORE APPROPRIATE FOR THE CONTEXT OF MELUSI.	BY INCORPORATING A MANUAL PULLY SYSTEM, THE USER CAN TAKE FULL OWNERSHIP OF THE SPACE BY ADAPTING THE SPACE AS THEY PLEASE. THIS THUS SUPPORTS ADAPTABILITY AS WELL BY MAKING THE SYSTEM MORE ACCESSIBLE. THE COMMUNITY HAS THE OPPORTUNITY TO BUILD THE SYSTEM AND MAINTAIN THE SYSTEM THUS CREATING A SENSE OF BELONGING. (LOW-TECH, HIGH-DESIGN)	
 SCAFFOLDING SYSTEM 1 (SCAFFOLDING)	 (Peri 2024) SCAFFOLDING SYSTEM		N/A	N/A	THE GRID DESIGN OF A SCAFFOLDING SYSTEM IS ALIGNED WITH THE RHIZOME CONCEPT. HOWEVER, SCAFFOLDING IS UTILISED AS A TEMPORARY STRUCTURE, AND ONE NEEDS A PERMIT TO ERECT SCAFFOLDING. THUS, THIS GOES AGAINST INCLUDING THE COMMUNITY IN THE BUILDING OF THE SYSTEM. THIS WILL NOT BE A GOOD FIT FOR THE PROJECT.	THE GRID SYSTEM WILL BE TAKEN FURTHER. HOWEVER, THE TEMPORARY NATURE OF THE SCAFFOLDING WILL BE STRENGTHENED, AND A SYSTEM SHOULD BE DESIGNED TO INCLUDE THE COMMUNITY WITH THE BUILDING THEREOF.	
 PERGOLA SYSTEM 2 (STEEL)	 (NJRsteel 2024) STEEL PERGOLA SYSTEM				BY UTILISING THE 3000X3000 GRID OF THE SCAFFOLDING, STEEL FRAMES WERE DESIGNED THAT ACT AS A RHIZOME THROUGHOUT THE SPACE. THIS SHIFT WILL ALLOW FOR A MORE PERMANENT INSTALLATION AND WILL ALLOW THE COMMUNITY TO PARTICIPATE IN THE ERECTION THEREOF.	THIS SHIFT WILL ALLOW FOR ADAPTABILITY SINCE DIFFERENT SCENARIOS ARE ALIGNED WITH THE SYSTEM AND WILL ALLOW FOR A SENSE OF BELONGING SINCE THE COMMUNITY IS PARTICIPATING IN THE BUILD THEREOF.	

METHODOLOGICAL TESTING

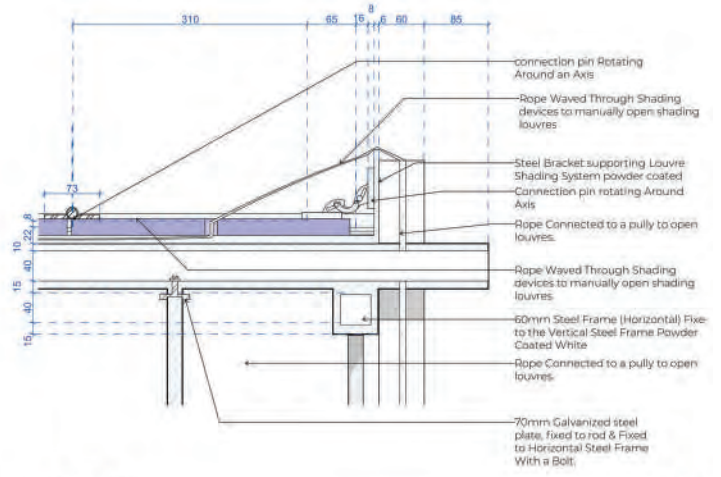
NODE 3 : NOURISHMENT METHODOLOGICAL TESTING





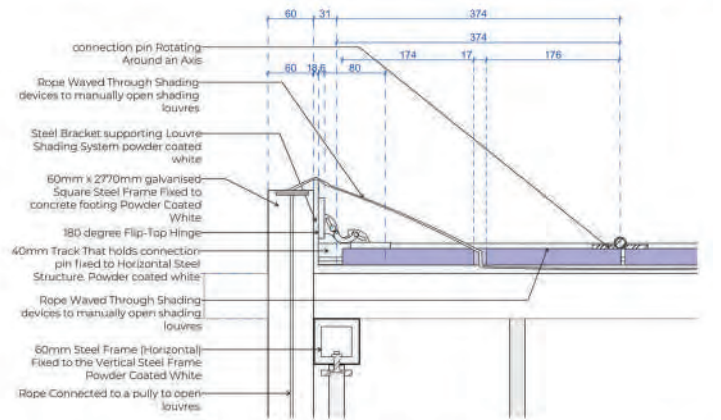
SECTION-06

1:10



D-07

1:5



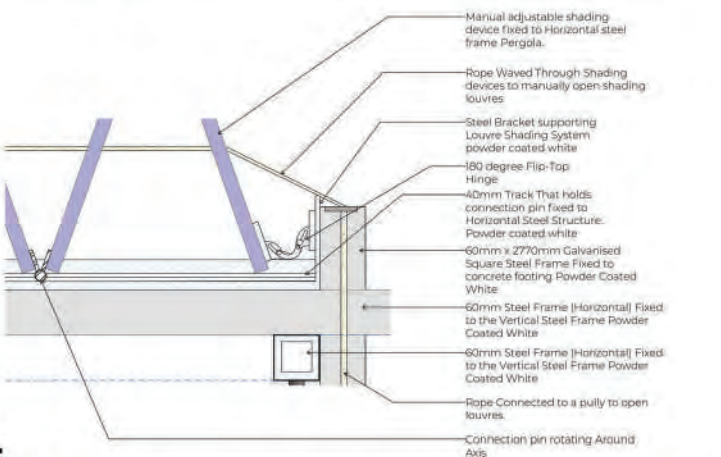
D-08

1:5



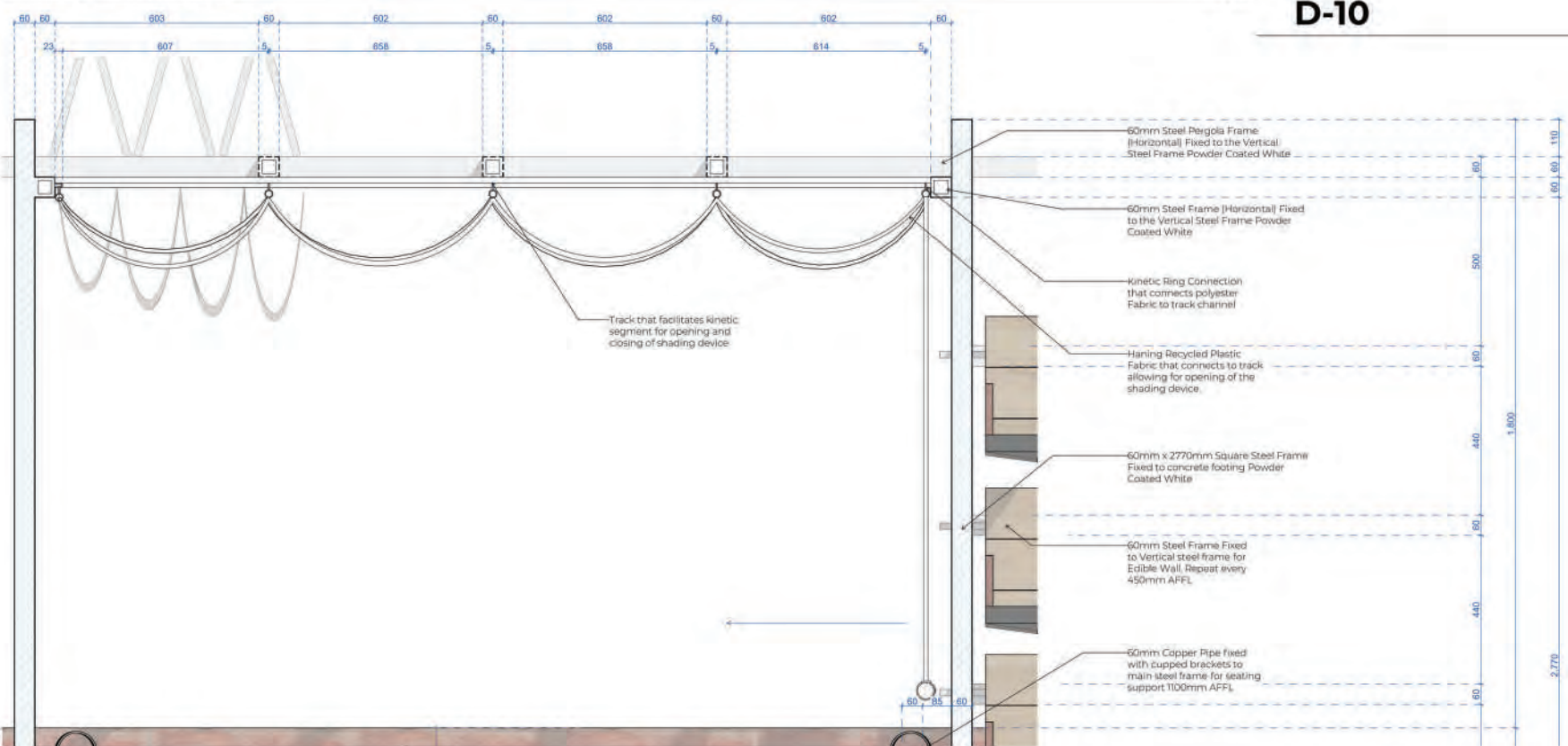
NO-02-D03

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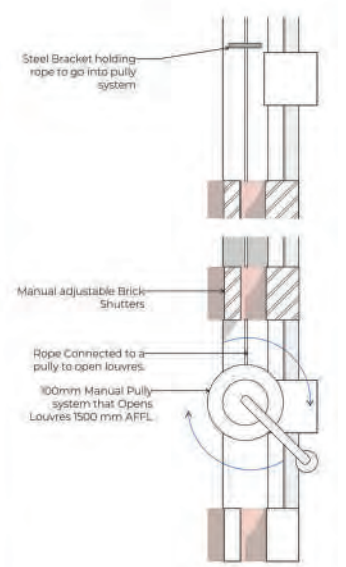
D-10

1:5



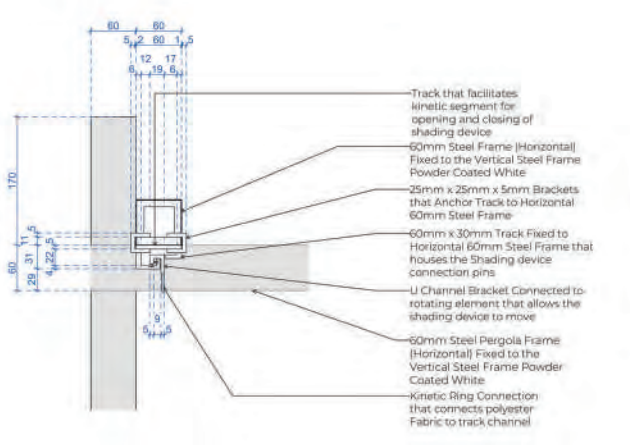
SECTION-04

1:10



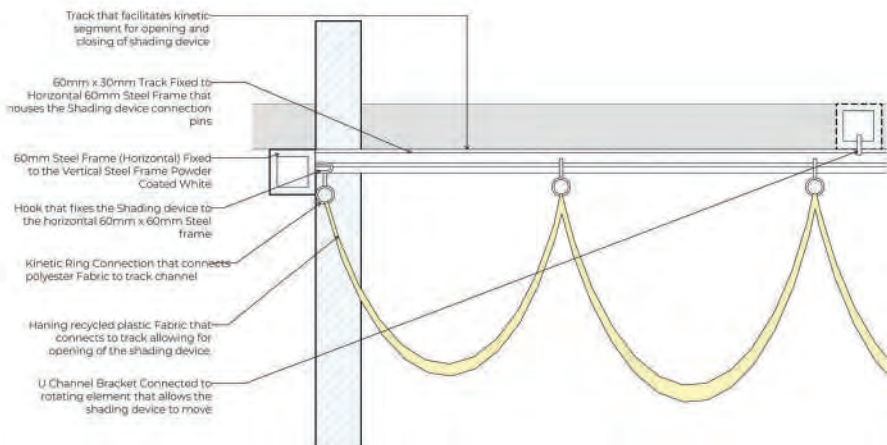
Detail

1:5



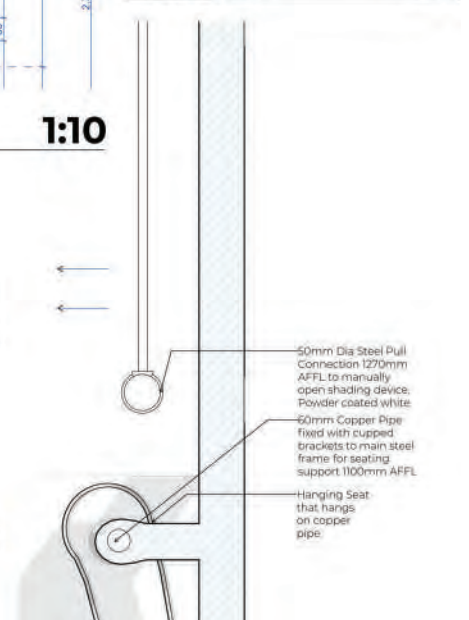
DETAIL 07

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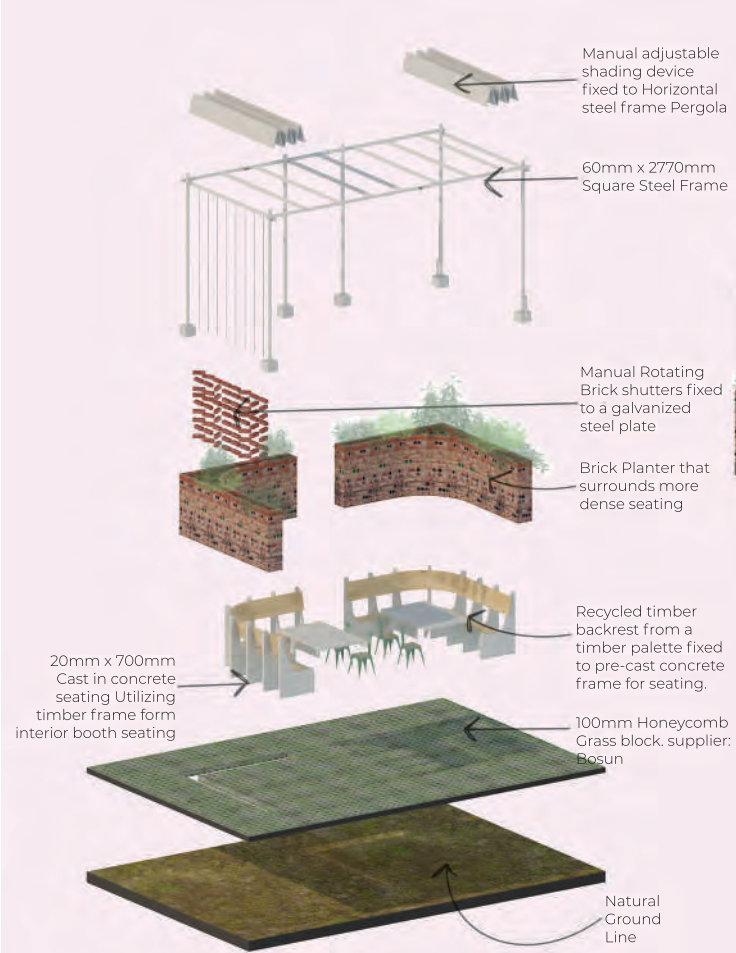
SECTION THROUGH TRACK

1:5

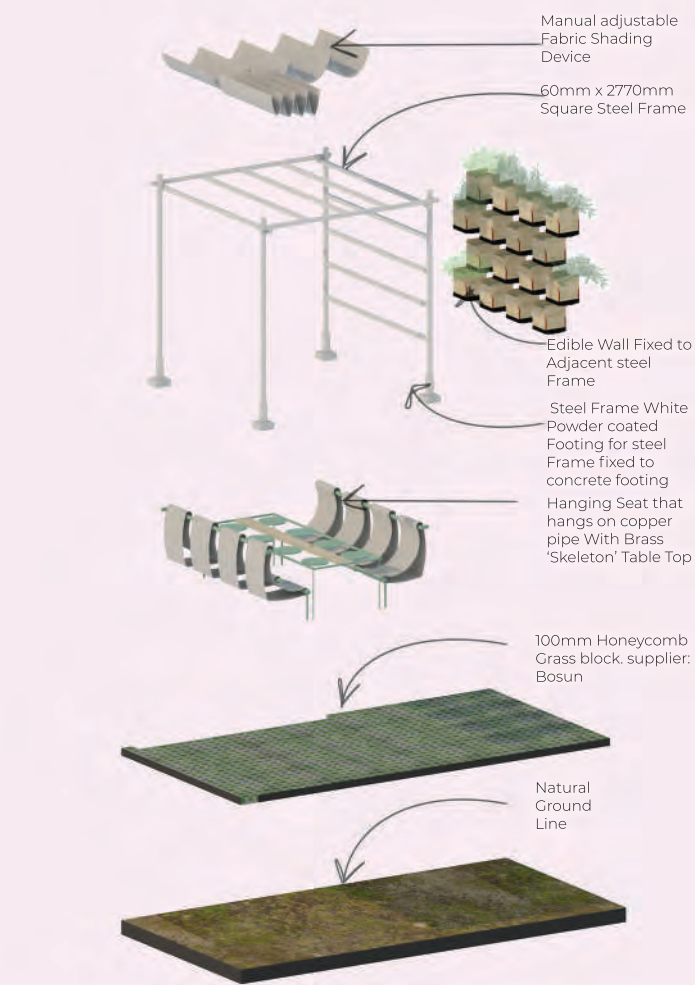


Detail

1:5



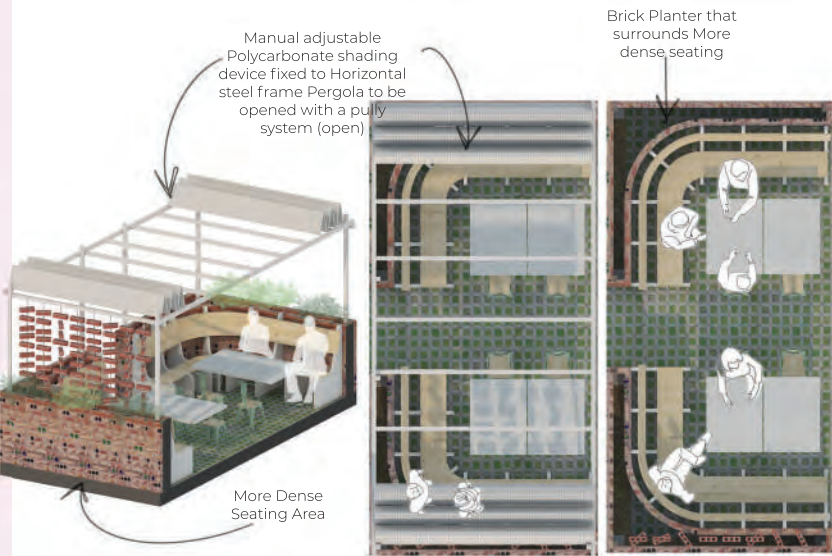
AXO OF MORE DENSE SEATING AREA



AXO OF MORE SPARSE SEATING AREA
AXONOMETRIC

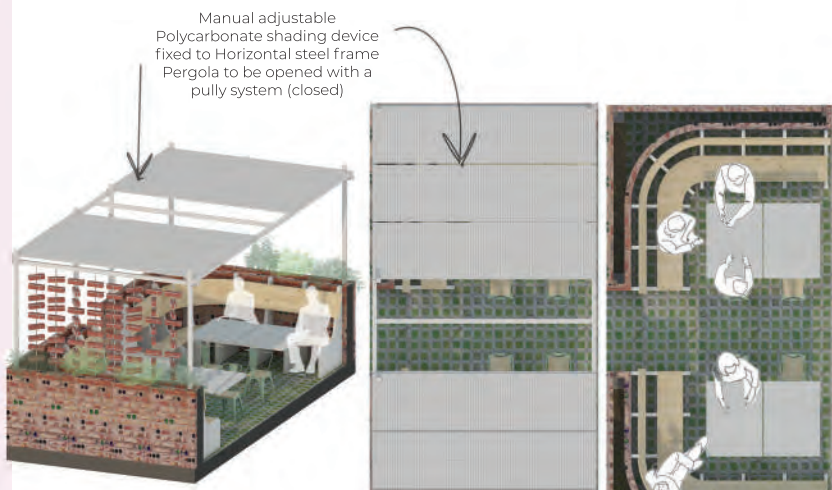
The first seating typology is more dense, with more dense materials. The second eating typology is sparser, almost acting as a skeleton of the first typology with more lightweight materials. As the seating moves away from the culinary school, more of the sparse seating typology is visible to the northern side of the site. This also houses the edible walls. The intangible programmes that the seating area supports are that of community participation and a sense of belonging since eating is seen as a place of coming together, and the community participates in the building thereof. It also supports the notion of familiarity since the materials utilised are inspired by the innovative use of materials within Melusi and the materials chosen are not foreign to the community.

INTENTION OF NODE



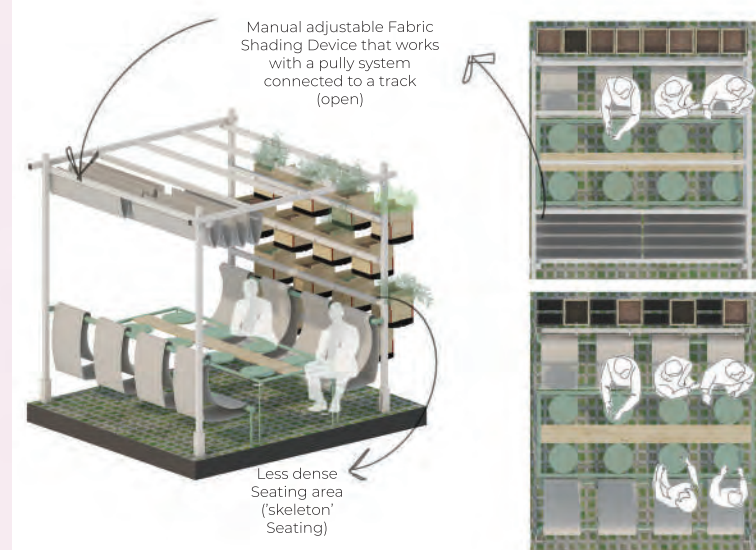
SEATING AREA (MORE DENSE) V01

PLAN



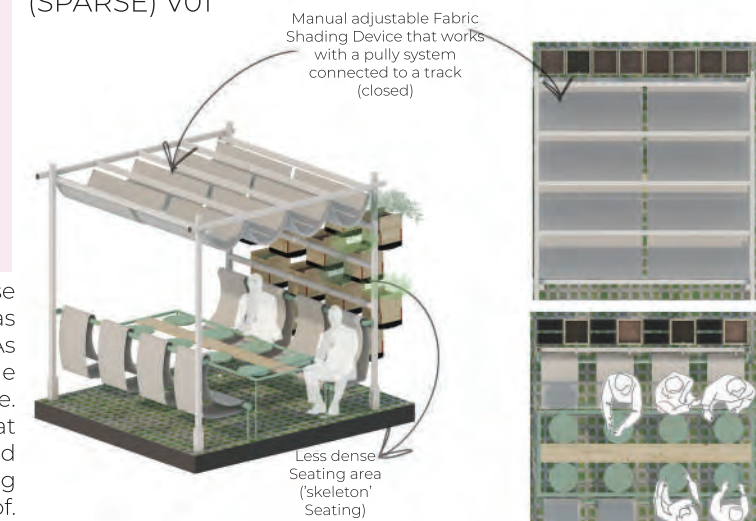
SEATING AREA (DENSE) V02

PLAN



SEATING AREA (SPARSE) V01

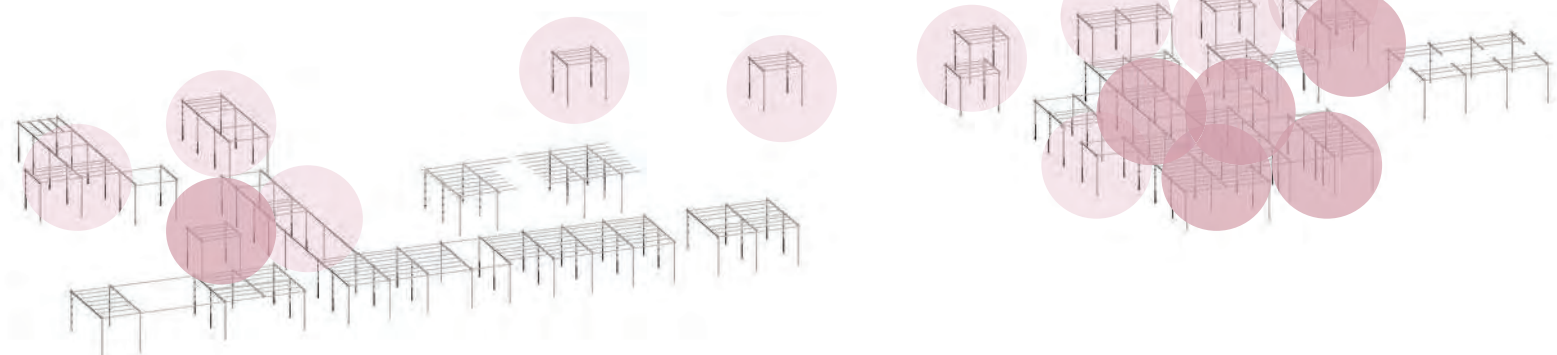
PLAN



SEATING AREA (SPARSE) V02

PLAN

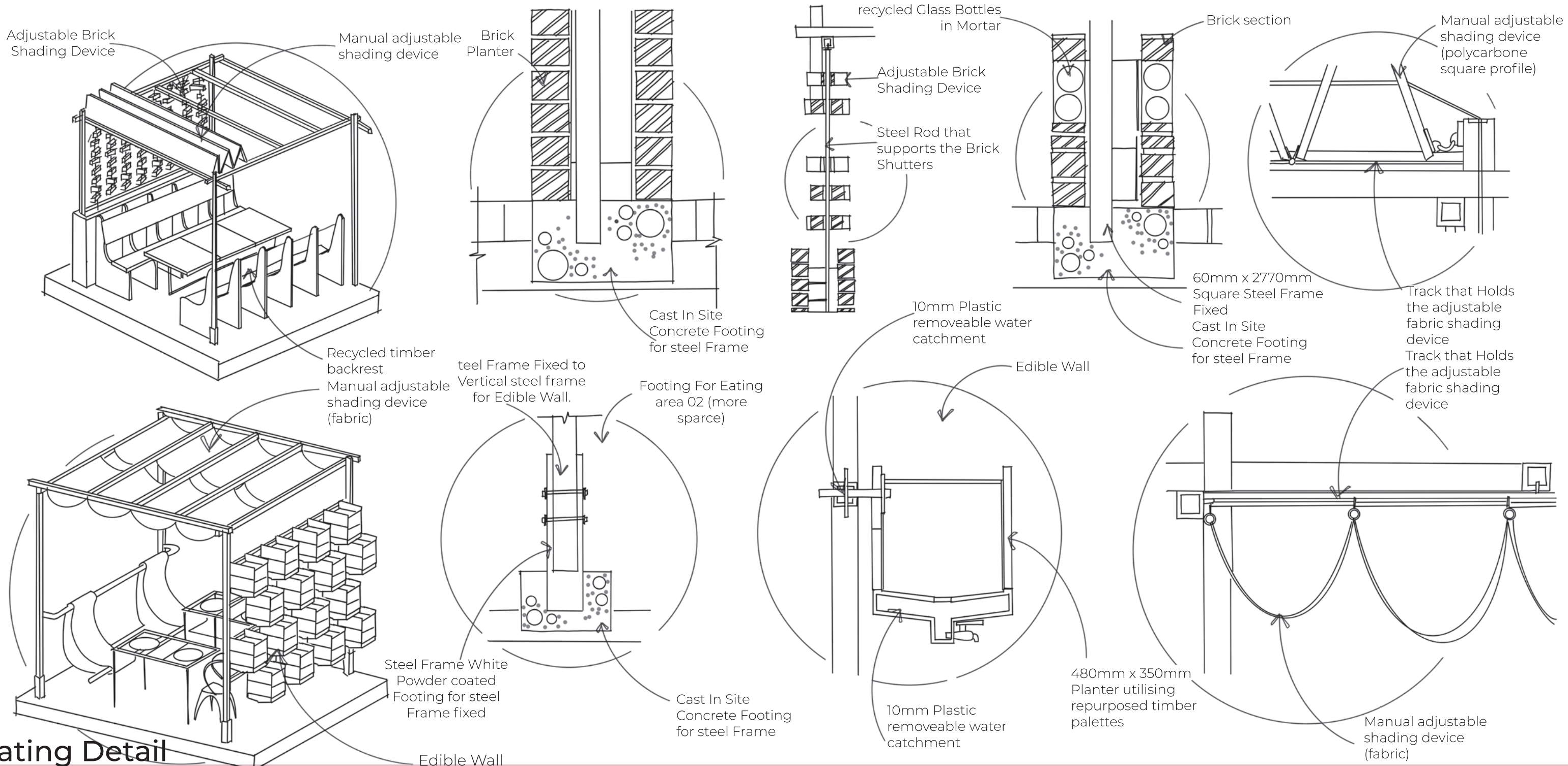
SCENARIOS & USAGE



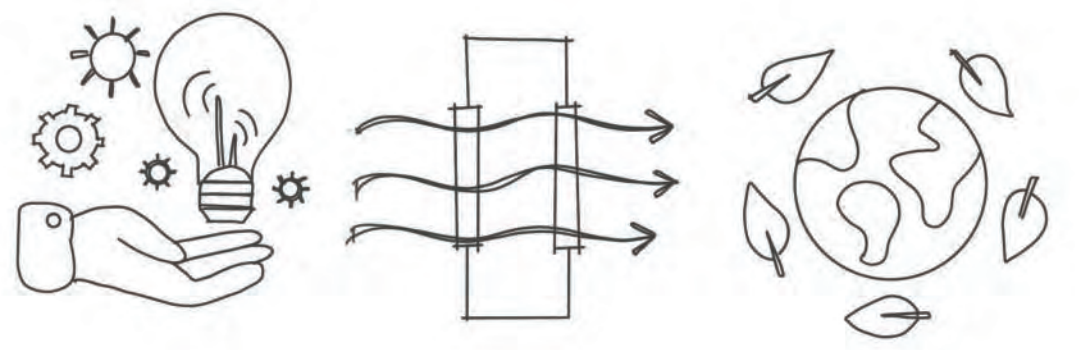
CONNECTION TO SYSTEM

NODE 3 : NOURISHMENT SCENARIOS & AXONOMETRIC

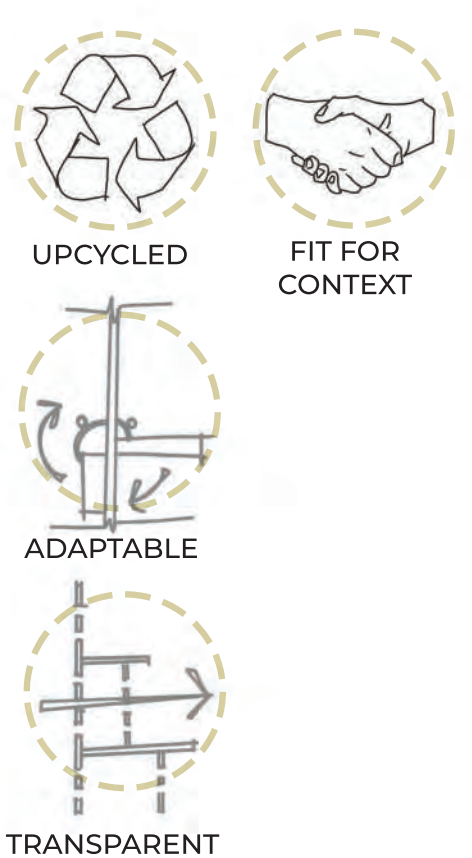
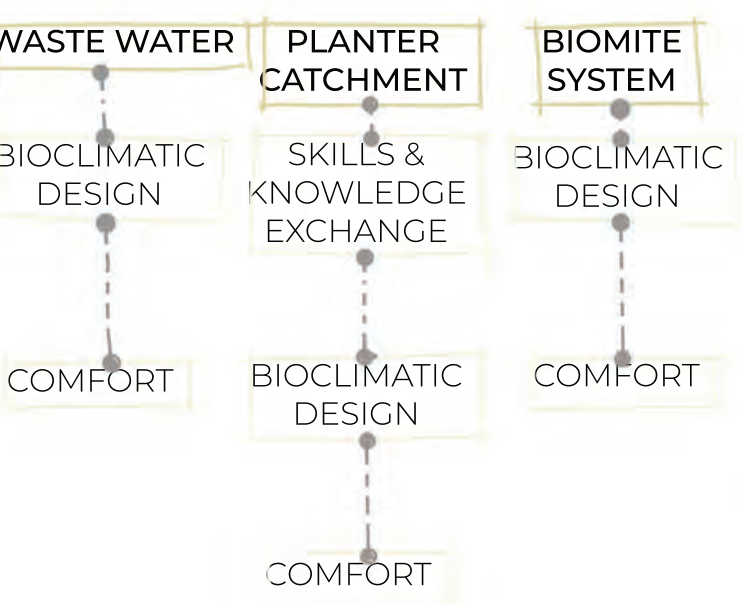




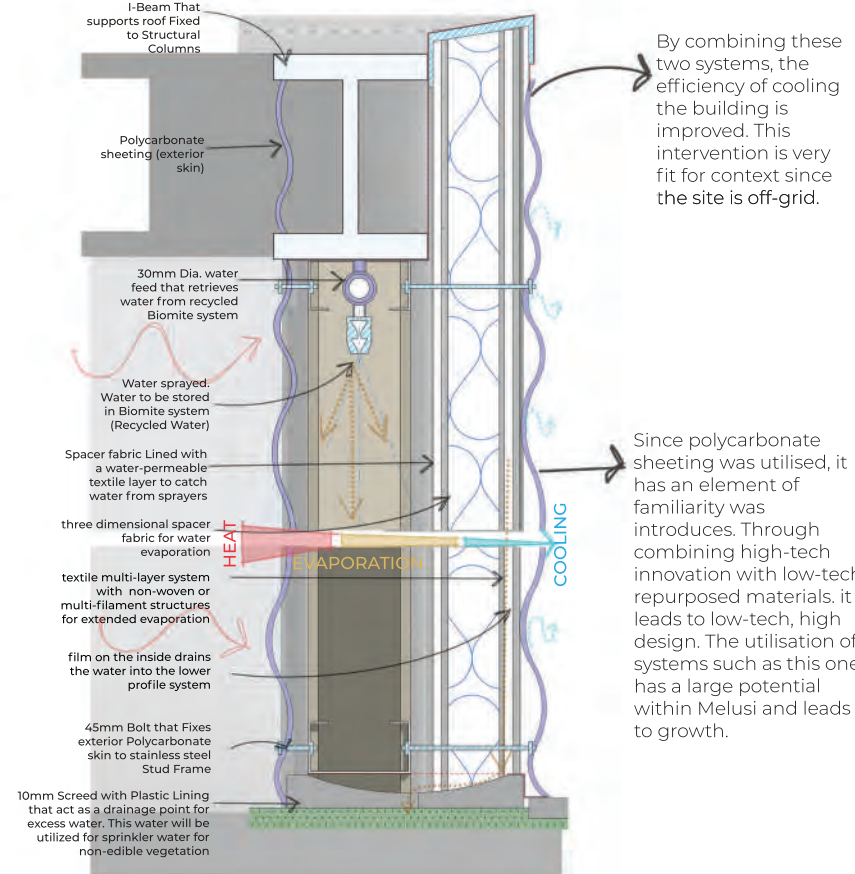
Eating Detail
NODE-03 DETAIL EXPLORATIONS



CIRCULAR SYSTEM



Innovation Filtration Repurpose
RITUALS CONNECTED WITH NODE



FIRST & SECOND ORDER MEANING

CHARACTERISTICS

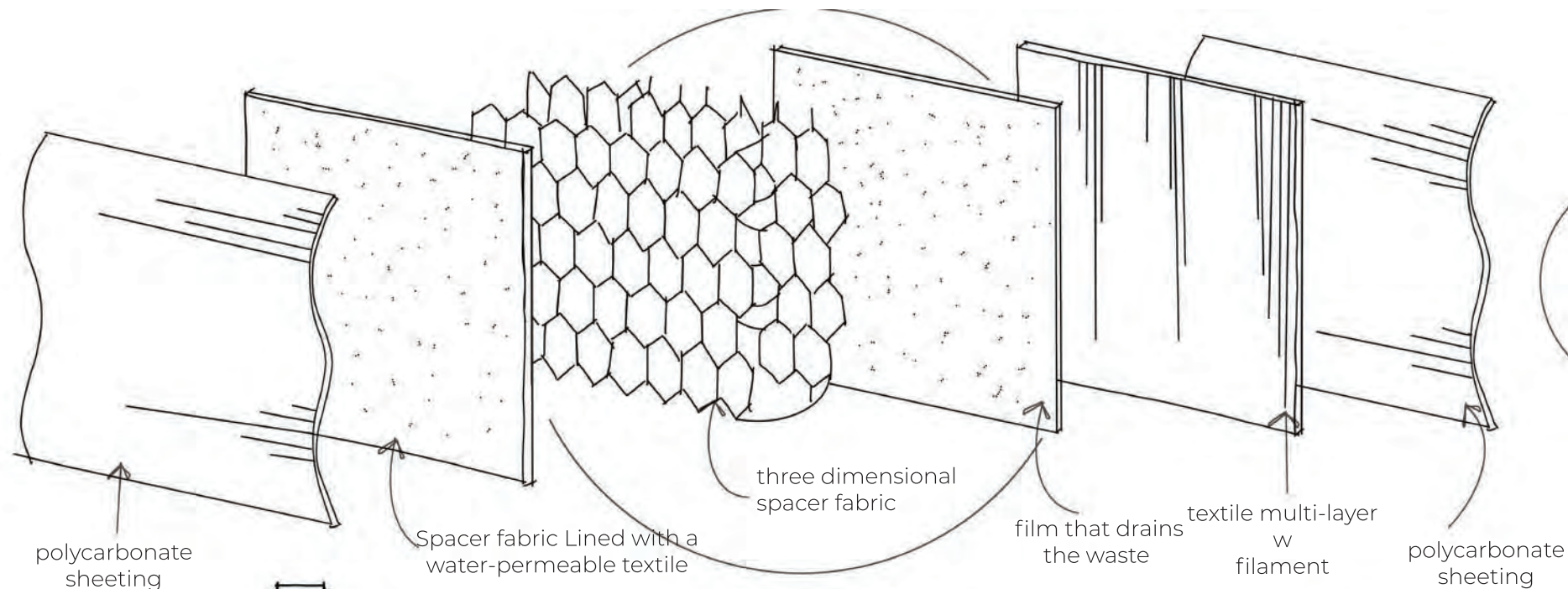
RESPONSE TO TECHNICAL QUESTION

DRAWING	RESEARCH	CAD MODELLING	DETAILING	MAQUETTE TESTING	OVERALL CONTEXT?	WRITTEN CONCLUSION	CONCLUSION
	 (birock 2024) BIOMITE SYSTEM UTILISING SOIL WATER	N/A		N/A	THE BIOMITE WATER SYSTEM IS AN EXCELLENT SYSTEM FOR MANAGING WASTE WATER ON THE SITE. IT IS UTILISED TO RECYCLE WATER. HOWEVER IT WILL BE UTILISED TO COOL THE FAÇADE AND THEN IT WILL BE UTILISED FOR VEGETATION. IN SUCH A PUBLIC AREA, THE EXPOSURE TO SOIL WATER IS HAZARDOUS	VERY GOOD SYSTEM HOWEVER IT WILL BE UTILISED TO COOL THE FAÇADE AND THEN IT WILL BE UTILISED FOR VEGETATION. IN SUCH A PUBLIC AREA, THE EXPOSURE TO SOIL WATER IS HAZARDOUS	
	 (birock 2024) BIOMITE SYSTEM UTILISING WASTE WATER	N/A		N/A	THE BIOMITE WATER SYSTEM IS AN EXCELLENT SYSTEM FOR MANAGING WASTE WATER ON THE SITE. IT IS UTILISED TO RECYCLE WATER. BY UTILISING WASTE WATER FROM THE BASINS AND KITCHEN DRAIN AS THE METHOD OF COOLING A FAÇADE, IT BECOMES MORE APPROPRIATE.	UTILISING WASTE WATER FROM THE BASINS AND KITCHEN DRAIN AS THE METHOD OF COOLING A FAÇADE BECOMES MORE APPROPRIATE. THE SYSTEM IS VERY APPROPRIATE SINCE THE SITE MAKES USE OF SEPTIC TANKS TO RID SOIL WATER. BY RECYCLING THE WASTE WATER, THE LOAD ON THE SEPTIC TANKS BECOME LESS. THIS SUPPORTS THE INTANGIBLE OF UPCYCLED AND FIT FOR CONTEXT.	
		N/A	N/A	N/A	SINCE GLASS FAÇADES ARE UTILISED IN BIOCLIMATIC DESIGN, UTILISING POLYCARBONATE SHEETING IS DEEMED AS MORE FIT FOR CONTEXT. HOWEVER, THE POLYCARBONATE SHEETING WILL ALSO ALLOW FOR HEAT GAIN WITHIN THE SPACE.	SINCE POLYCARBONATE IS A GOOD FIT FOR THE CONTEXT, IT SUPPORTS UPCYCLING, AND IT IS A FAMILIAR MATERIAL WITHIN MELUSI, IT WILL BE TAKEN FURTHER FOR MORE EXPLORATION. HOWEVER, IT CANNOT BE UTILISED BY ITSELF, THUS FURTHER EXPLORATION WAS UNDERTAKEN.	
					HYDRO SKIN FAÇADE IS AN EXCELLENT SOLUTION TO THE CHALLENGES FACED WITH POLYCARBONATE SHEETING. THE HYDROFAÇADE ALLOWS FOR COOLING A BUILDING THROUGH EVAPORATION. THE EVAPORATION IS CAUSED WHEN WATER WITH HOT AIR COMES IN CONTACT WITH A COOL SURFACE THE HEAT WILL BE PRODUCED BY THE POLYCARBONATE SHEETING, AND THE WATER IS FROM THE BIOMITE SYSTEM.	THROUGH UTILISING A COMBINED SYSTEM OF POLYCARBONATE SHEETING WITH THE BIOMITE SYSTEM AND THE HYDRO SKIN, IT BECOMES AN EXCELLENT SYSTEM IN THE CONTEXT OF MELUSI TO CREATE A SOPHISTICATED BIOCLIMATIC DESIGN. (SIKA MEMBRAN SA)	

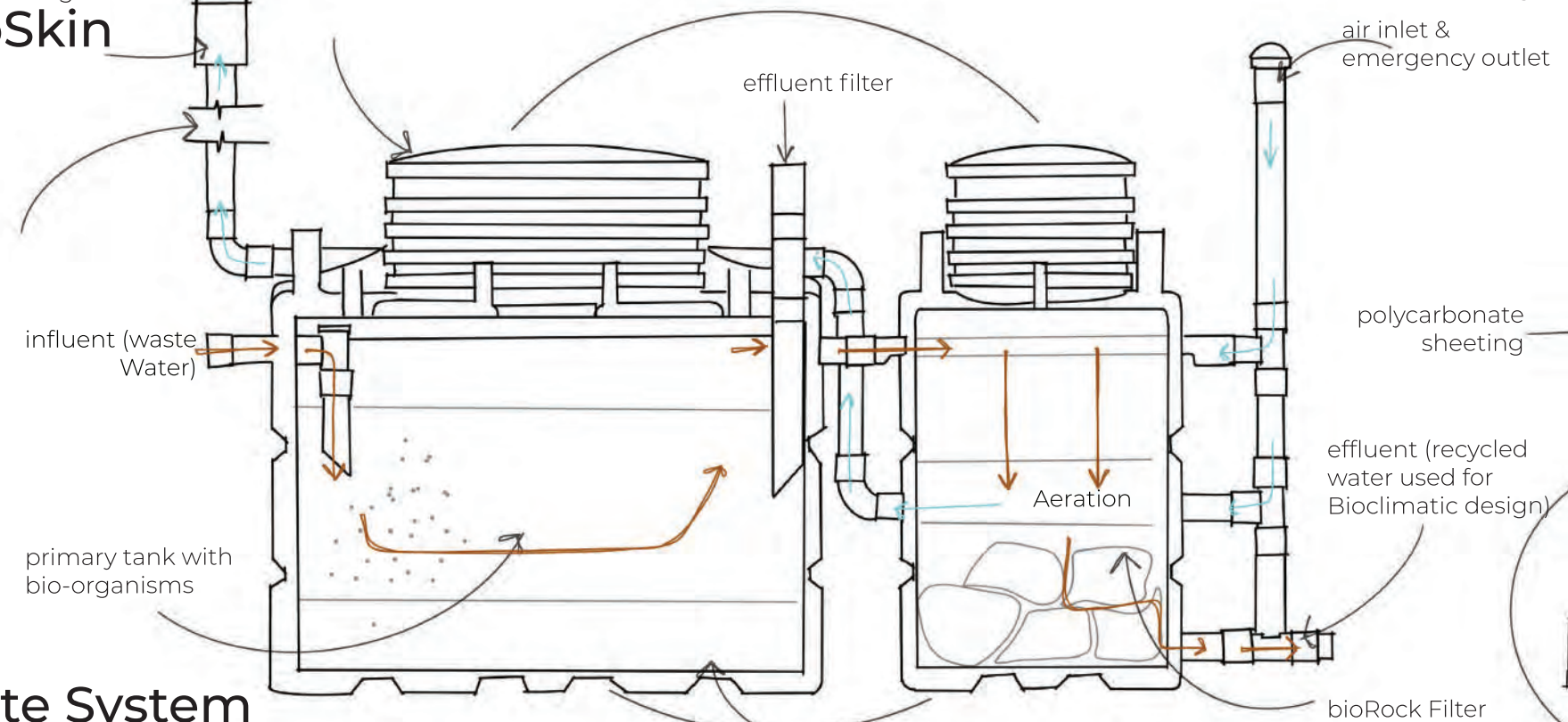
METHODOLOGICAL TESTING

NODE 3 : WASTE METHODOLOGICAL TESTING

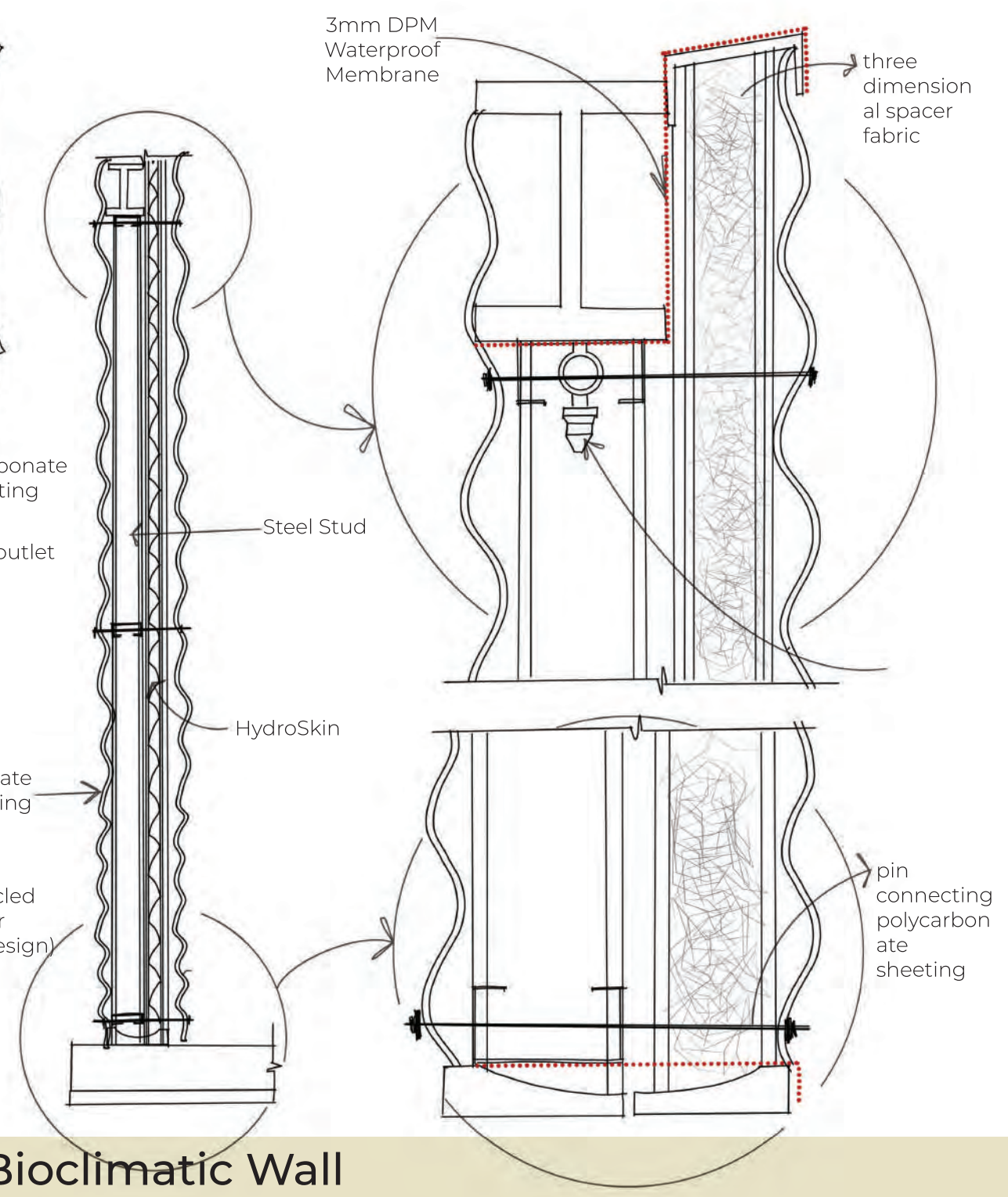




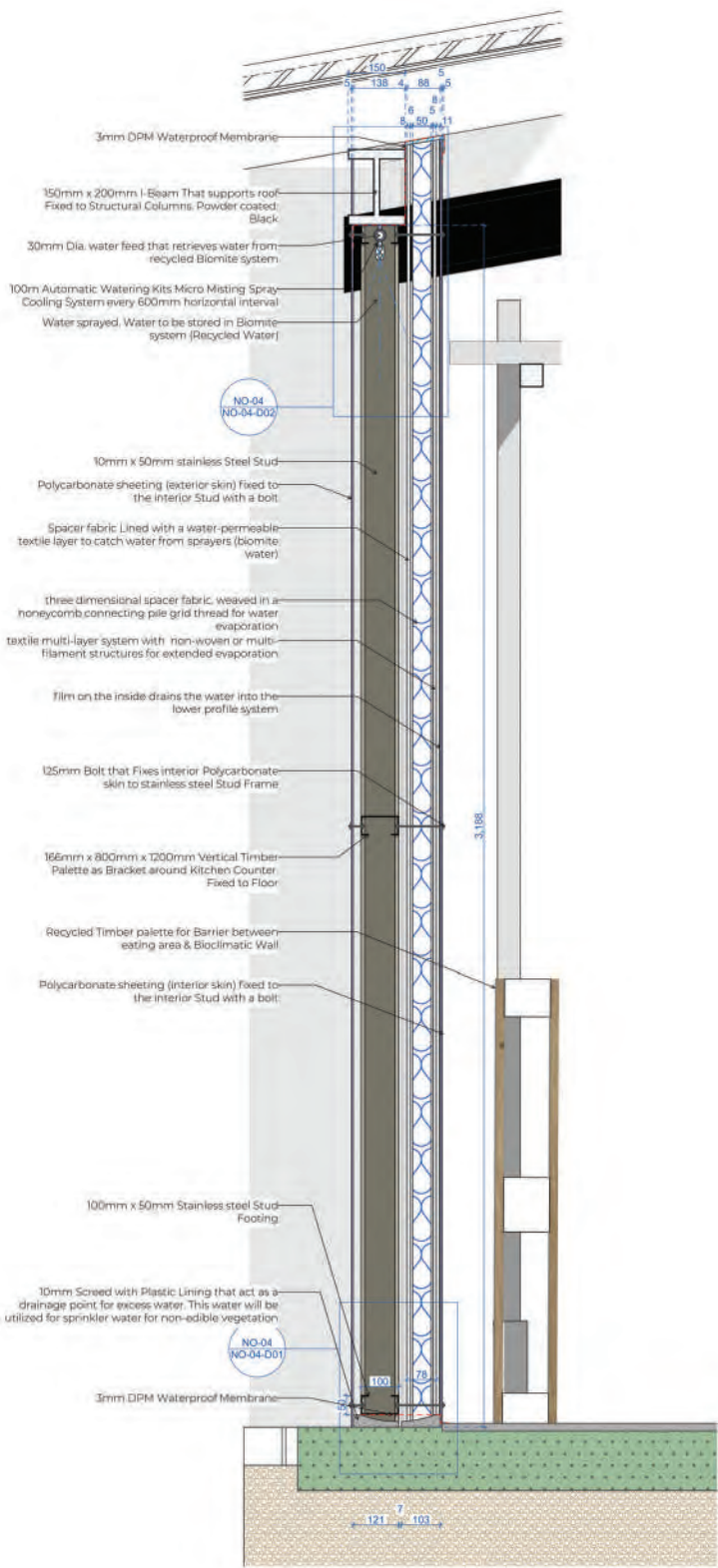
HydroSkin



**Biomite System
NODE-04 DETAIL EXPLORATIONS**

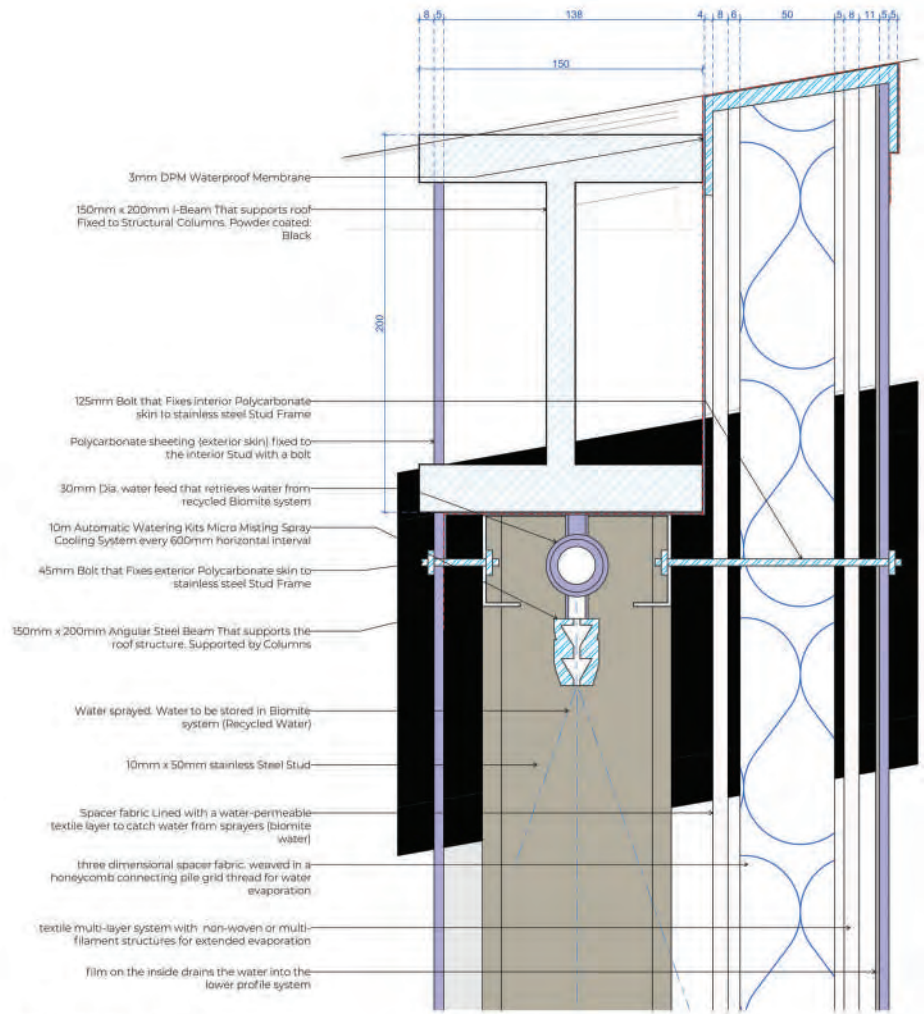


Bioclimatic Wall



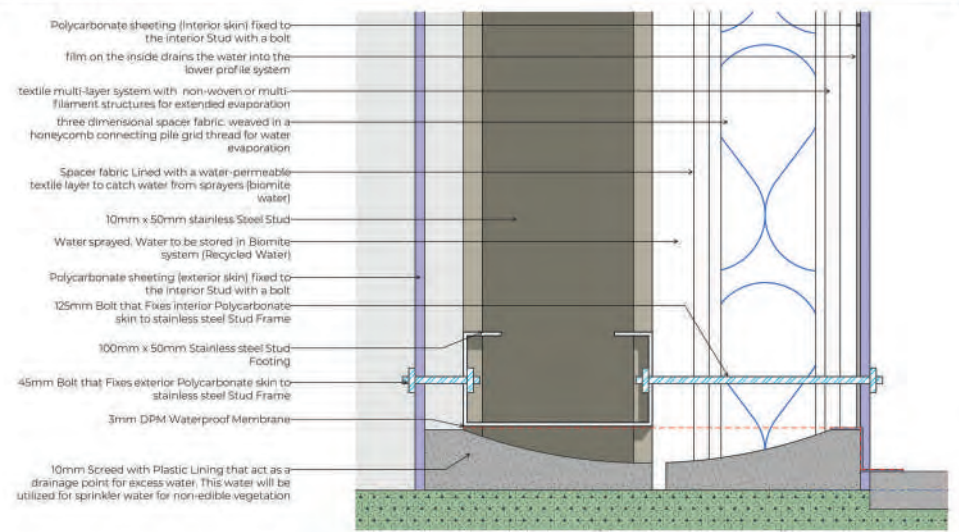
SECTION 01

1:10



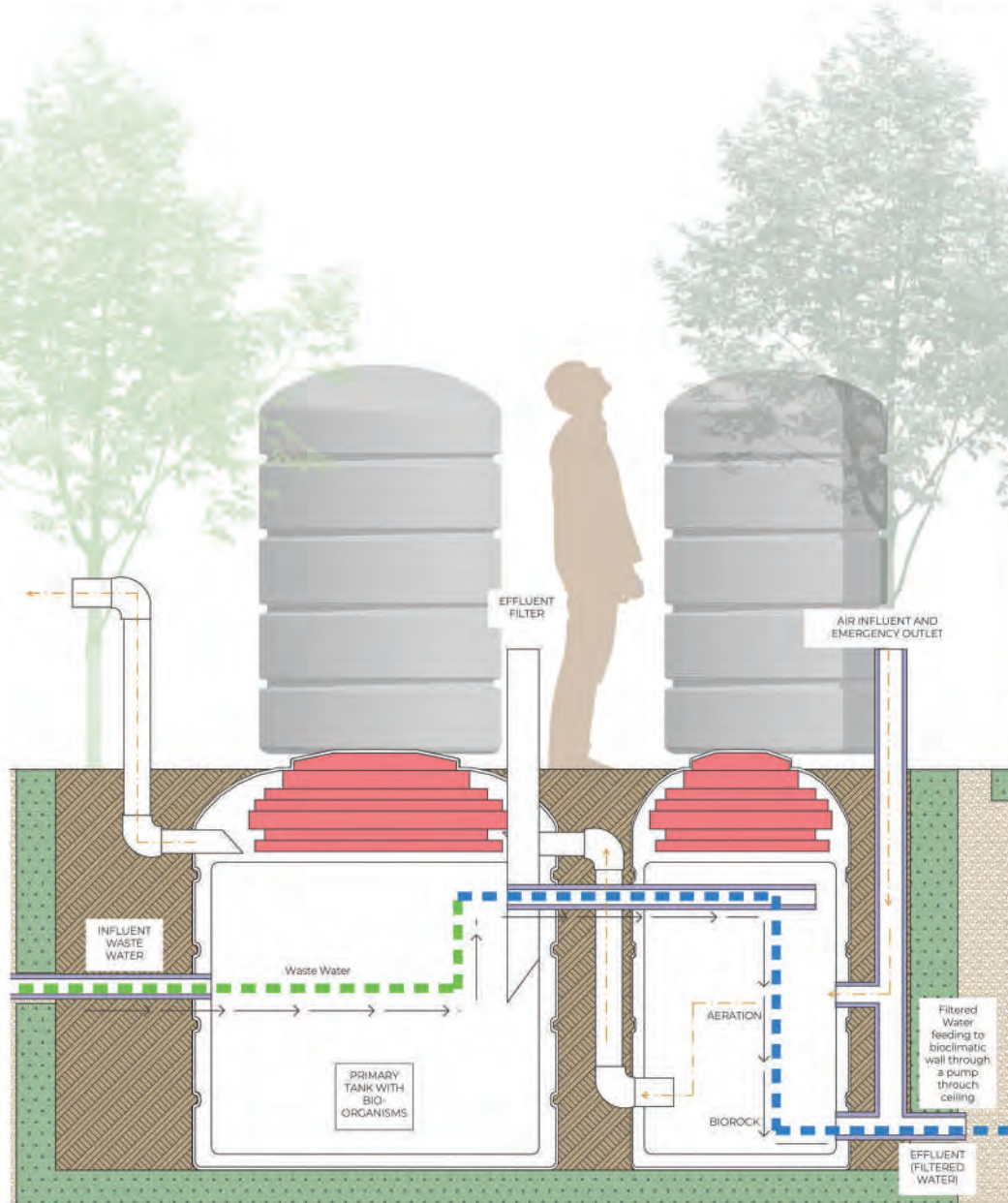
NO-04-D02

1:2



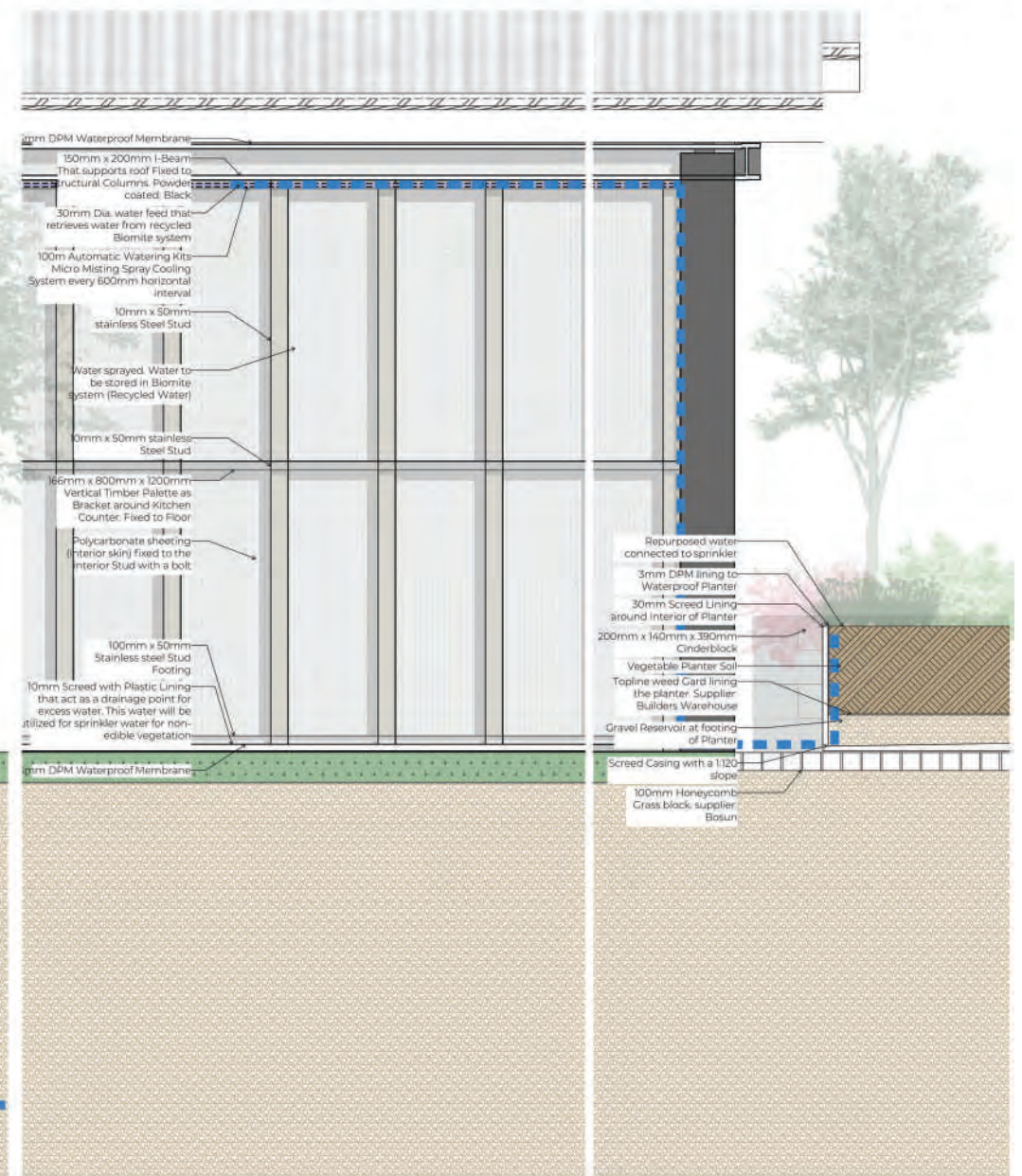
NO-04-D01

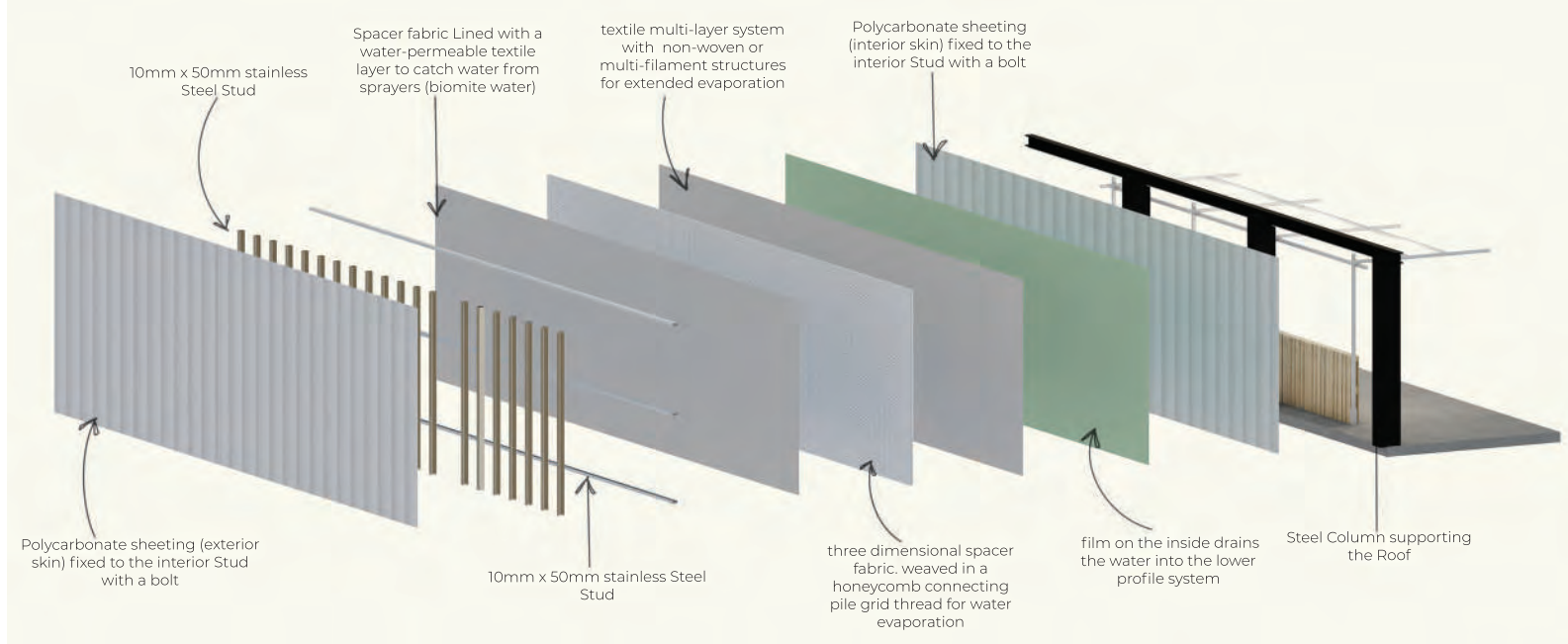
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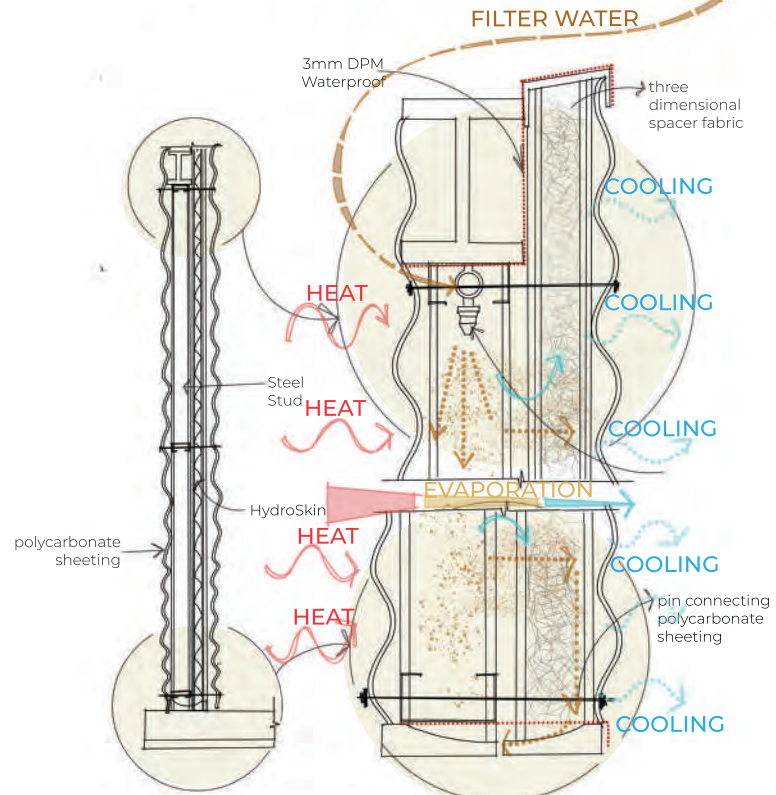
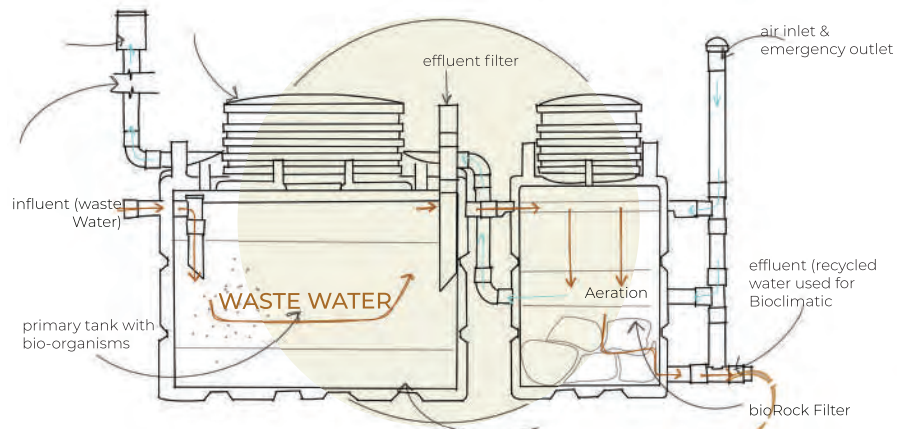
SECTION 02

1:20



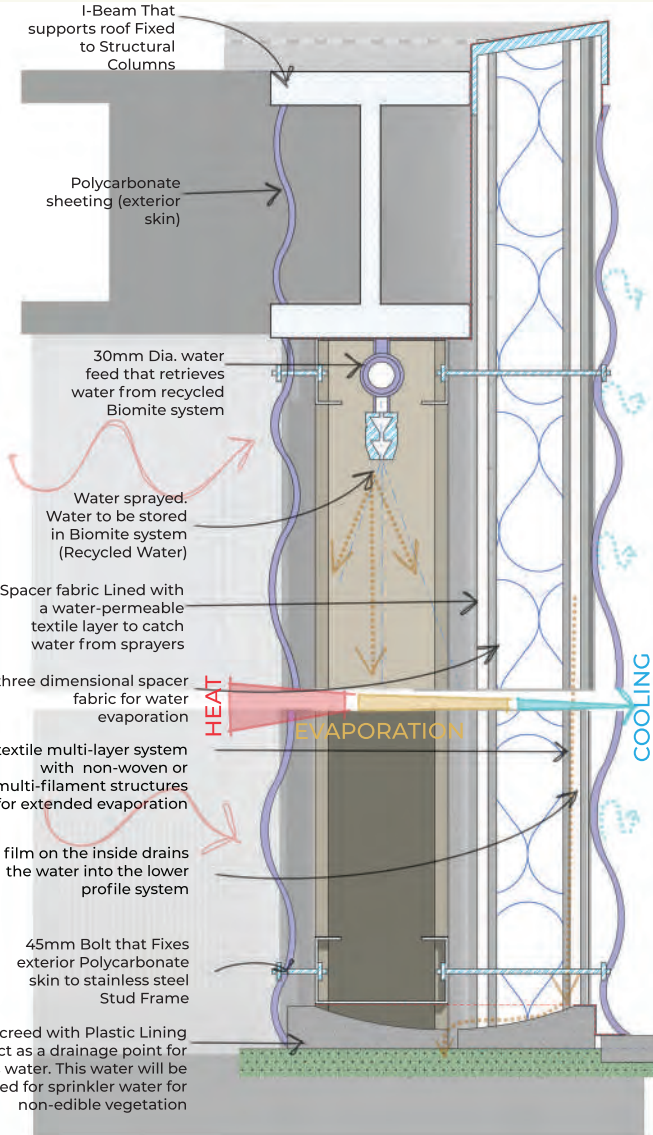


AXO OF BIOMITE SYSTEM (LAYERS)
AXONOMETRIC

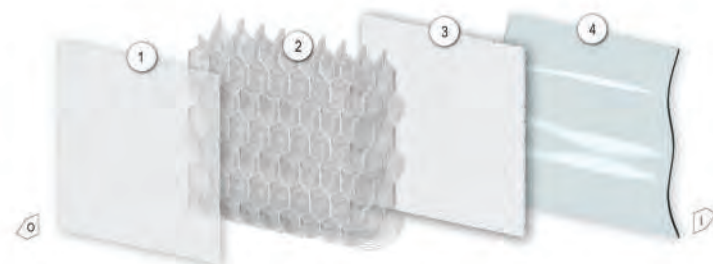


(birock 2024)
BIOMITE SYSTEM & COOLING PROCESS

The Waste node is supported by a bioclimatic design that includes a Biomite system as well as a HydroSkin wall. Although these are two separate systems, for this design I have combined them to allow for comfort within the building. The biomite system is a water recycling system that filters the wastewater from the building. This waste water is fed to the HydroSkin wall that makes use of evaporation utilising multiple textile layers to cool the building. This water will be released through a sprayer into the cavity. The water that drips down will be utilised as irrigation water.

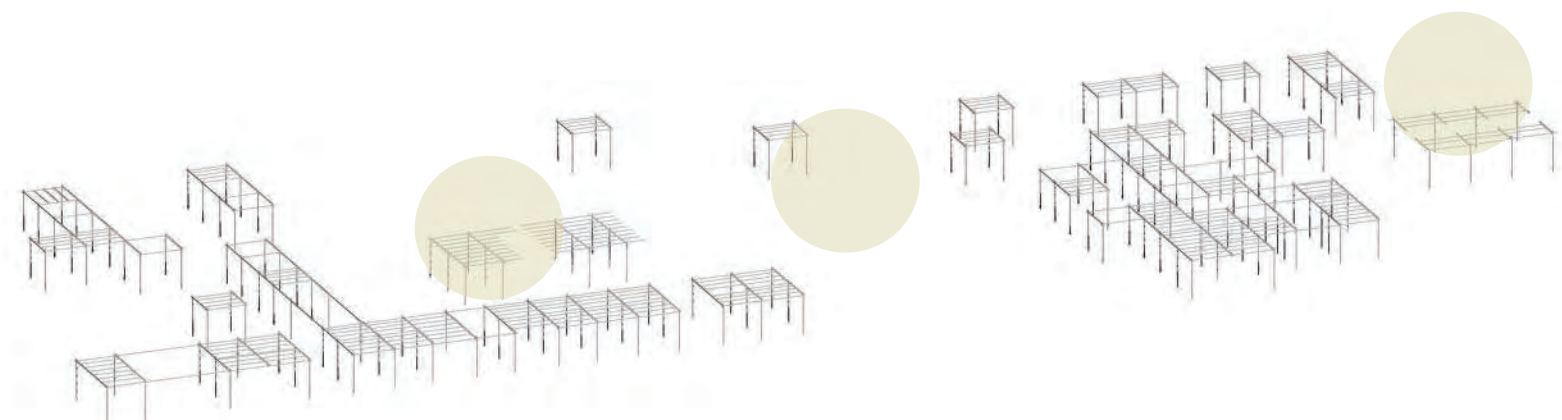


HydroSkin SYSTEM SECTION



HydroSkin (facadetectonics 2022)
SCENARIOS & USAGE

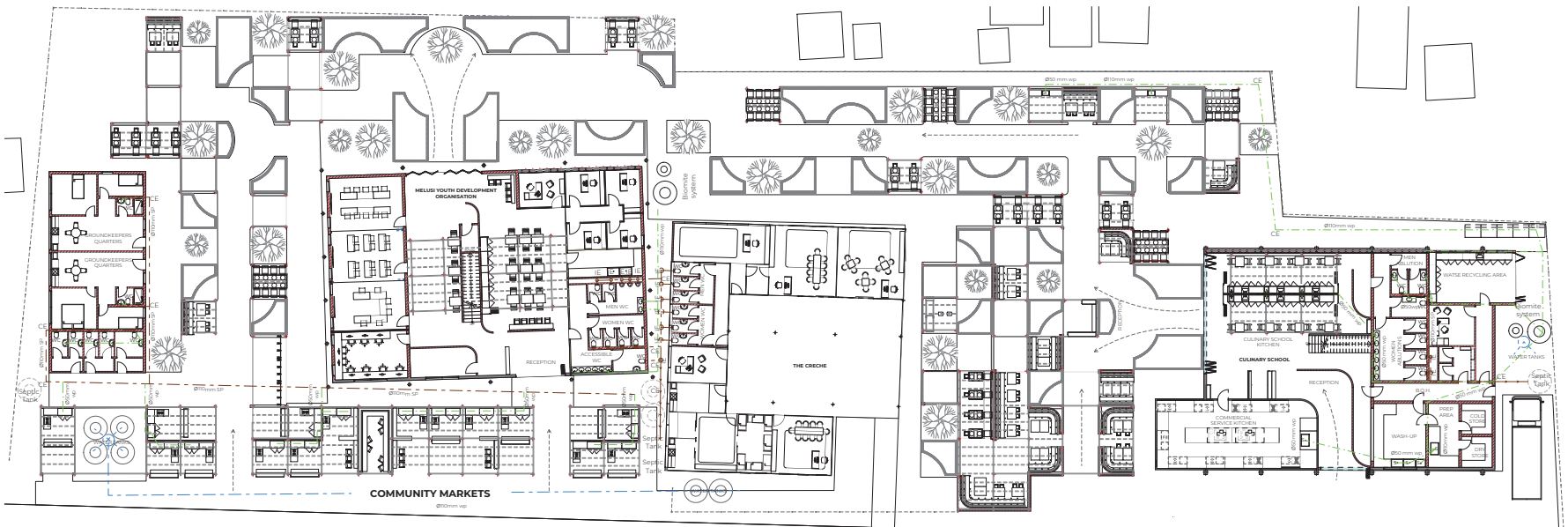
INTENTION OF NODE



CONNECTION TO SYSTEM

NODE 4 : BIOCLIMATIC WALL SCENARIOS & AXONOMETRIC





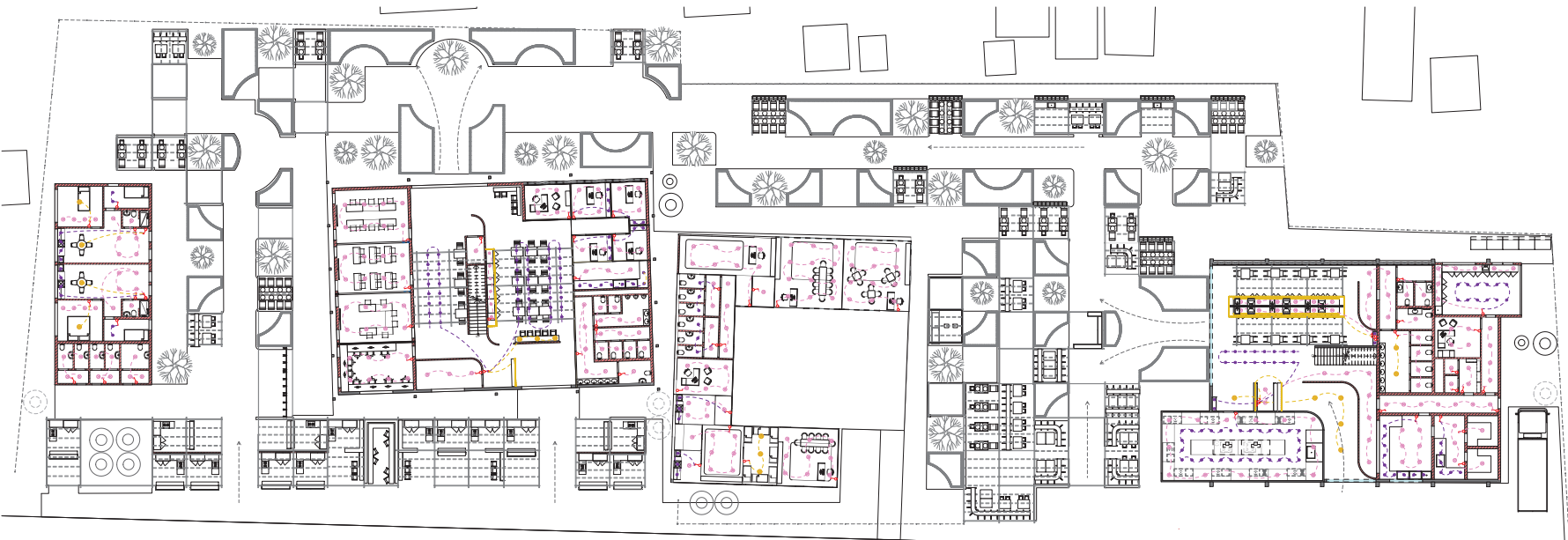
Drainage Schedule

Symbol	Description
	Soil Pipe
	Waste Pipe
	Drainage
	Ø110 Soil Pipe from Top Floor
	Manhole
	Drainage Slope
WP	Waste Pipe
SP	Soil Pipe
IE	Inspection Eye
	Borehole water supply

GROUND FLOOR - WET SERVICES PLAN

1:200

Ablutions	Basins	Taps	Prep Bowls	Shower	Concrete outdoor sink	Biomite system	Sink	Sink Tap
Diplomat White Eco Wall Hung Toilet Part - Incl. Soft Close Seat Excludes Cistern & Flush Plate BEIWH9159. Supplier: CTM	black basin - 600mm excludes tap & waste fitting bsba600bb. supplier:ctm (for all bathrooms) black finish	Amalfi Komati Black Basin Mixer TVK04640/BK Supplier: CTM (For All Bathrooms)	380mm x 450mm x 165mm galvanized steel prep bowl with cold water only. supplier: builders. spec: cam africa square prep bowl	CrystalTech Black Flat Frame Corner Entry Shower Enclosure - CTC5012BL - 885 x 885 x 2000mm. Supplier: CTM	CrystalTech Black Flat Frame Corner Entry Shower Enclosure - CTC5012BL - 885 x 885 x 2000mm. Supplier: Wilson Stone	Biorock's Ecorock Sewage Treatment Units Up to 30 persons Non-Electric Wastewater Treatment - Septic Tank Upgrade. Supplier: Biorock	Franke Projectline Double Kitchen Sink PLN621 - 1160 x 460mm Includes Waste Strainer, Excludes Trap & Tap FKPLN621. Supplier: CTM	ITD Stainless Steel Savona Sink Mixer Tap Modern Design TVK5V43/5S. Supplier: CTM



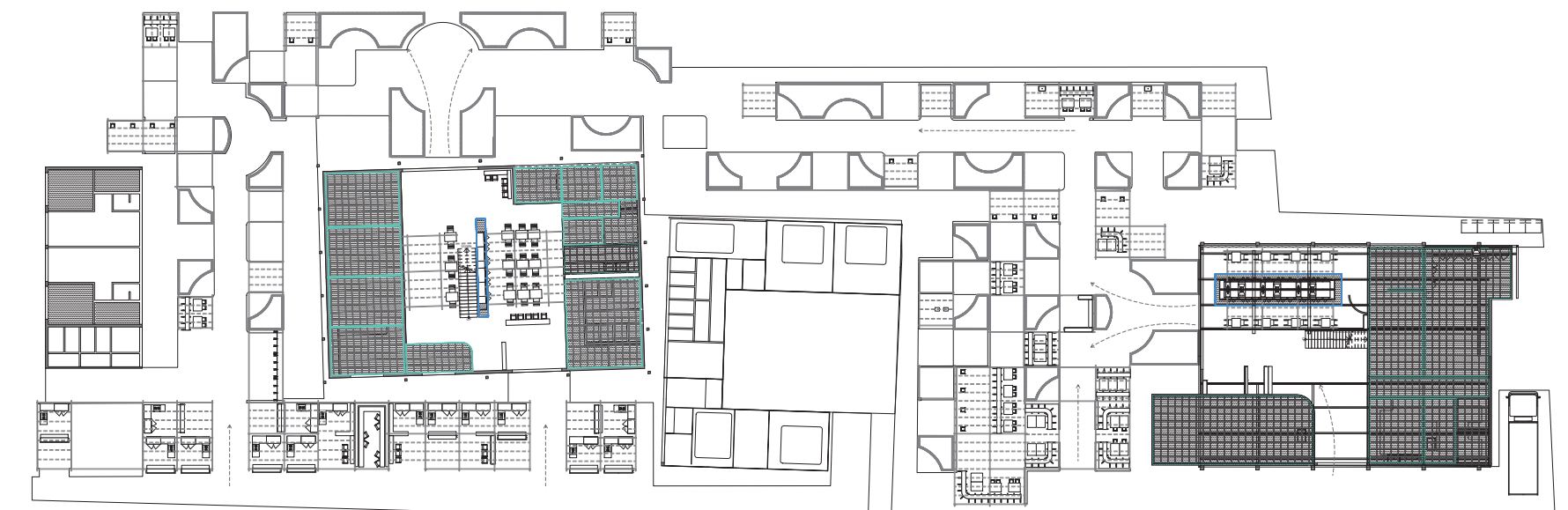
Lighting & Electrical Scedule

Symbol	Description	QTY
	Dimmable downlight with aluminium body, 30° reflector and 8° tilt. Includes LED driver. Supplier: spazio Colour. white Material:Aluminium Colour Temp:3000K	262
	2473.30 GU10 downlight with die-cast aluminium body and acrylic diffuser. Suitable for GU10 LED lamps. Supplier: spazio Colour. Black Material: Aluminium, polycarbonate Colour:Temp:3000K	100
	Surface mounted high wattage adjustable spot. Integrated LED driver. Colour: Black Material: Aluminium, polycarbonate Colour:Temp:3000K	4
	Made by Community. Pottery Ceramic pendant. Colour: Blue, Green or grey. Painted white on the inside for extra reflection. Lamp Holder: 1 x E14. Temp:3000K	14
	PRETTE PROFILE 1042.05 Anodized aluminium profile. All components sold separately. Suitable for 4-6mm strip light only.	-
	electrical conduit	-
	electrical conduit	-
	electrical conduit	-
	3 lever switch	-
	2 lever switch	-
	1 lever switch	-
	4 lever switch	-

GROUND FLOOR - LIGHTING LAYOUT

1:200

LI-01	LI-02	LI-04	LI-03	One Lever Switch	Two Lever Switch	Three Lever Switch	Four Lever Switch
Dimmable downlight with aluminium body, 30° reflector and 8° tilt. Includes LED driver. Supplier: spazio Colour. white Material:Aluminium Colour Temp:3000K	2473.30 GU10 downlight with die-cast aluminium body and acrylic diffuser. Suitable for GU10 LED lamps. Supplier: spazio Colour. Black Material: Aluminium, polycarbonate Colour:Temp:3000K	Made by Community. Pottery Ceramic pendant. Colour: Blue, Green or grey. Painted white on the inside for extra reflection. Lamp Holder: 1 x E14. Temp:3000K	Surface mounted high wattage adjustable spot. Integrated LED driver. Colour: Black Material: Aluminium, polycarbonate Colour Temp: 3000K	One Lever Bell Press Luminous fluorescent indicator glows in the dark, after exposure to light or sunlight. Intensity of the glow could vary or fade. Product Size 126mm x 80mm. Supplier: Veti	Two Lever 1 x Bell Press & 1 x Two-Way Light Switch Luminous fluorescent indicator glows in the dark, after exposure to light or sunlight. Intensity of the glow could vary or fade. Product Size 126mm x 80mm. Supplier:Veti	Three Lever 1 x Two-Way & 2 x Bell Press Light Switch Luminous fluorescent indicator glows in the dark, after exposure to light or sunlight. Intensity of the glow could vary or fade. Product Size 126mm x 80mm. Supplier:Veti	Four Lever Two-Way Light Switch Luminous fluorescent indicator glows in the dark, after exposure to light or sunlight. Intensity of the glow could vary or fade. Product Size 126mm x 80mm. Supplier:Veti

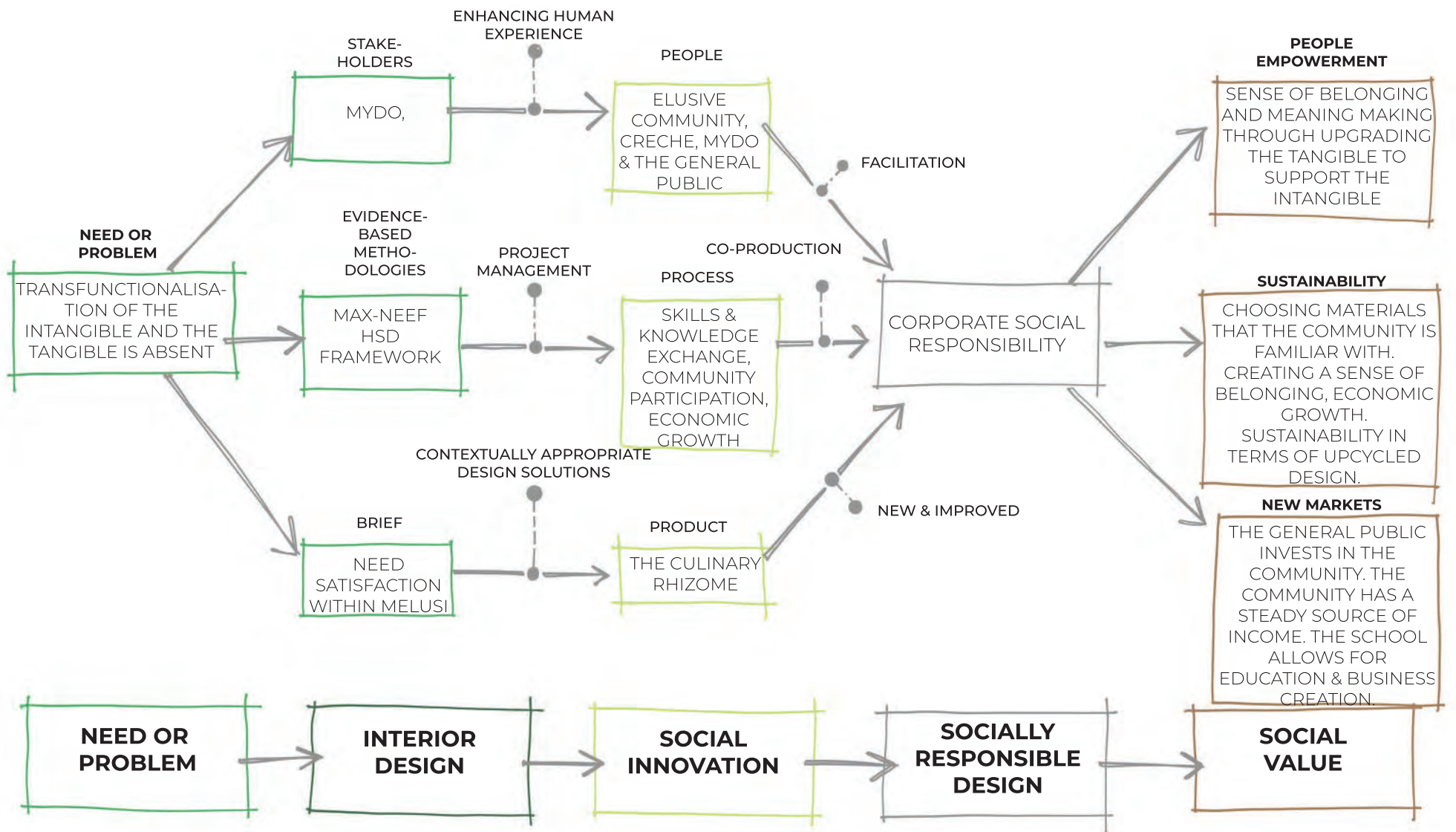


Drainage Schedule

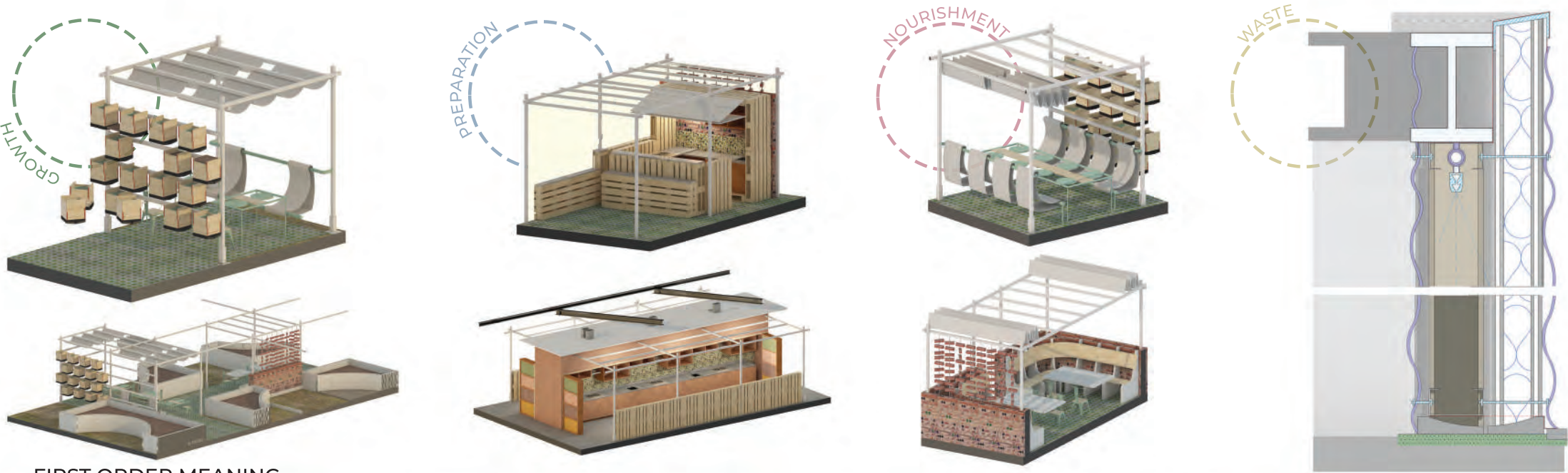
Symbol	Description
	Ceiling Flush Plaster
	1M/pcs Recessed Indoor Linear Light Bar Aluminium Profile Led Channel Holder for Corner Ceiling Decor Lighting
	Plaster Shadowline Trim Wave 9x12.5mm 3m 140681
	Ceiling Flush Plaster
	1M/pcs Recessed Indoor Linear Light Bar Aluminium Profile Led Channel Holder for Corner Ceiling Decor Lighting
	Plaster Shadowline Trim Wave 9x12.5mm 3m 140681

GROUND FLOOR - REFLECTED CEILING PLAN

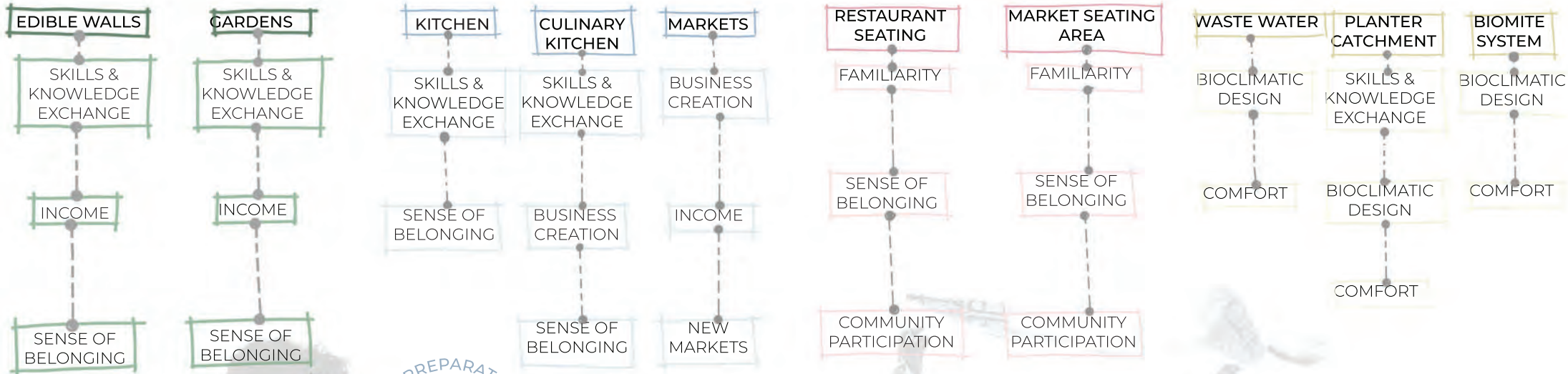
1:200



THE CULINARY RHIZOME CONNECTED TO THE INT ARCH SOCIAL COMPACT



FIRST ORDER MEANING



SECOND ORDER MEANING



CONCLUSION

